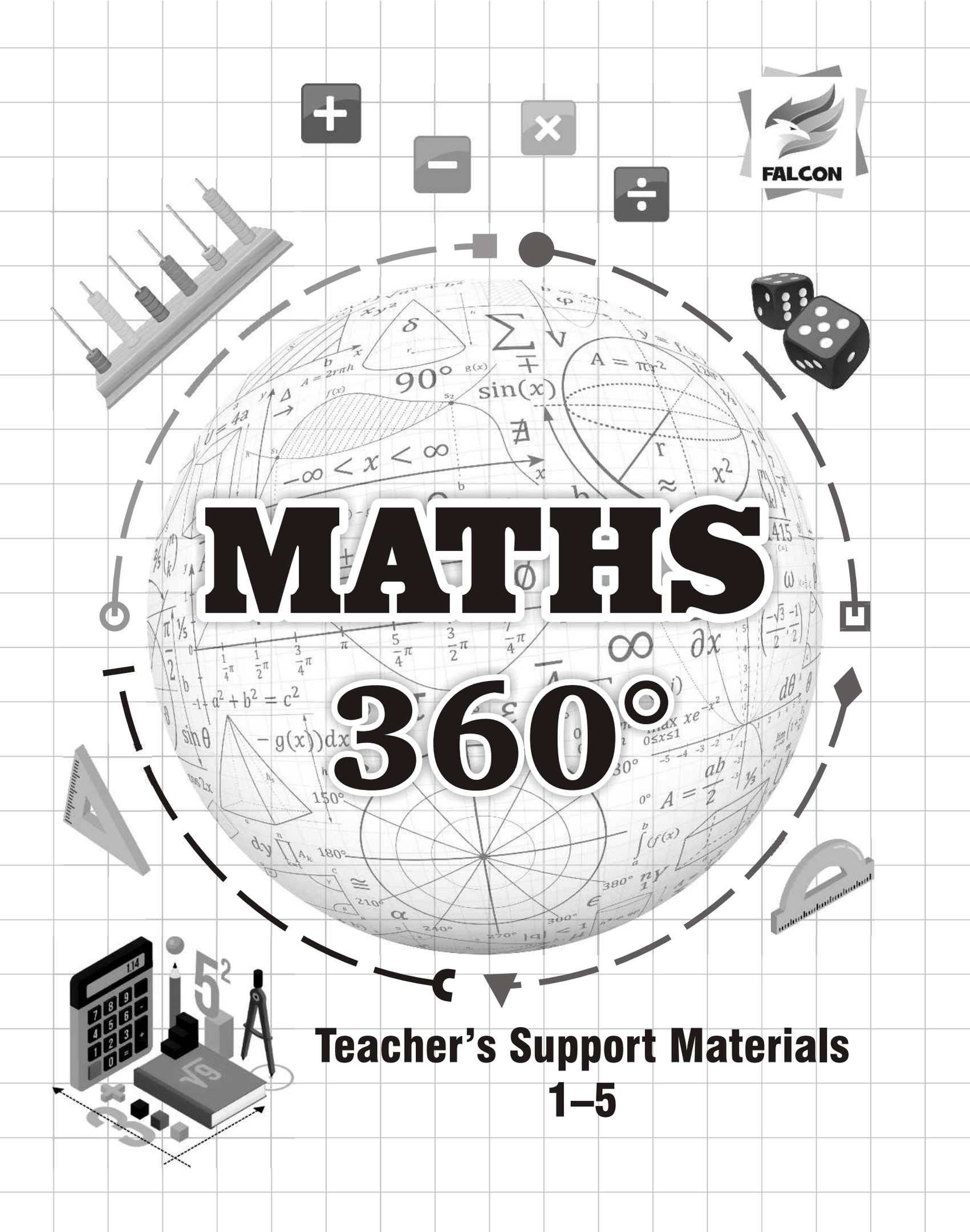


MATHS 360°

Teacher's Support Materials 1–5

Exercise 1.1

1. Fill in the blanks :

(a) 9 (b) 10 (c) 100, 999

2. Write 571 to 590 :

571, 572, 573, 574, 575, 576, 577,
578, 579, 580, 581, 582, 583, 584,
575 586, 587, 588, 589, 590.

3. Write 791 to 810 :

791, 792, 793, 794, 795, 796, 797,
798, 799, 800, 801, 802, 803, 804,
805, 806, 807, 808, 809, 810.

4. Fill in the blanks :

(a) 630, 631, 632, 633, 634, 635,
636, 637, 638, 639.

(b) 891, 892, 893, 894, 895, 896,
897, 898, 899, 900.

(c) 421, 420, 419, 418, 417, 416,
415, 414, 413, 412.

Exercise 1.2

1. Write the numbers :

(a) 41 (b) 213 (c) 324

2. Fill in the blanks :

(a) 4, 9, 3 (b) 2, 8, 7, (c) 6, 0, 9
(d) 2, 4, 5 (e) 0, 8, 6 (f) 9, 8, 5

3. Write in the short form :

456, 509, 100

4. Write in the expanded form :

864 = 800 + 60 + 4, 42 = 40 + 2
215 = 200 + 10 + 5

Exercise 1.3

1. Fill in the blanks :

Number	Digit	Place Value	Digit	Place Value	Digit	Place Value
783	7	700	8	80	3	3
837	8	800	3	30	7	7
78	7	70	8	8	__	__
994	9	900	9	90	4	4
546	5	500	4	40	6	6
105	1	100	0	0	5	5

2. Write in words :

574 = Five hundred seventy–four,
269 = Two hundred sixty–nine,
712 = Seven hundred twelve,
983 = Nine hundred eighty–three,
590 = Five hundred ninety,
604 = Six hundred four,
848 = Eight hundred forty–eight,
357 = Three hundred fifty–seven,
957 = Nine hundred fifty–seven,
774 = Seven hundred seventy–four,
469 = Four hundred sixty–nine.

Exercise 1.4

1. Write the predecessor :

62 – 63, 79 – 80, 221 – 222, 367 – 368,
399 – 400, 648 – 649, 749 – 750, 89 – 90,
969 – 970, 706 – 707.

2. Write the successor :

63 – 64, 80 – 81, 222 – 223, 368 – 369,
400 – 401, 649 – 650, 750 – 751, 90 – 91,
970 – 971, 707 – 708.

3. Write the number in between :

78 – 79 – 80, 200 – 201 – 202, 209 – 210 – 211,
869 – 870 – 871, 49 – 50 –51, 705 – 706 – 707,
456 – 457 – 458.

4. Continue the pattern :

(a) 595, 599, 603, 607.
(b) 710, 730, 750, 770.
(c) 820, 770, 720, 670.

Exercise 1.5

1. Write >, < or = in the blank :

94 > 50, 87 < 98, 8 < 14, 78 < 87,
804 > 464, 99 < 490, 256 > 56, 578 > 540,
888 > 778, 987 > 897, 482 = 482, 367 < 673,
417 > 407, 816 > 215, 549 = 549, 644 < 694,
986 > 968, 666 < 999, 325 > 235.

2. Ring the smallest and tick the largest number :

888 ✓ 808 288 (28) 882 881
62 68 52 (39) 56 74 ✓
769 783 ✓ 756 740 (720) 738
362 (243) 857 904 ✓ 536 749
276 273 275 (270) 278 ✓ 272
937 ✓ 637 537 (37) 237 837
632 (236) 986 ✓ 623 968 362

3. Write in ascending order :

(a) 20, 26, 30, 50, 60, 70
(b) 26, 34, 49, 55, 76, 83
(c) 567, 689, 690, 926, 962, 965
(d) 708, 746, 764, 769, 780, 796
(e) 30, 93, 309, 390, 903, 930

4. Write in descending order :

(a) 876, 620, 549, 395, 310, 301
(b) 764, 638, 520, 467, 386, 205
(c) 995, 905, 844, 590, 484, 448
(d) 850, 826, 763, 745, 637, 591
(e) 913, 775, 615, 508, 439, 230

Exercise 1.6

1. Add these numbers :

(a) ① 2 5 4 + 5 6 3 = 8 1 1

(b) ① 3 6 8 + 4 2 5 = 7 9 3

(c) ① 6 5 8 + 1 3 7 = 7 9 5

(d) ① 4 7 2 + 5 4 5 = 8 1 7

(e) ① 6 5 7 + 2 3 5 = 8 9 2

(f) ① ① 5 3 9 + 2 6 3 = 8 0 2

(g) ① 4 3 4 + 5 4 7 = 9 8 1

(h) ① 3 7 5 + 4 3 1 = 8 0 6

(i) ① 7 2 7 + 1 6 3 = 8 9 0

(j) ① 2 5 3 + 6 5 4 = 9 0 7

(k) ① ① 3 7 2 + 2 8 9 = 6 6 1

(l) ① ① 7 6 4 + 2 5 8 = 9 2 0

2. Subtract and write :

(a) ◯ (7) (12) 6 8 2 − 2 7 9 = 4 0 3

(b) (7) (11) (14) 8 2 4 − 6 8 8 = 1 3 6

(c) (5) (16) (13) 6 7 3 − 1 7 8 = 4 9 5

(d) (4) (17) (13) 5 8 3 − 2 9 7 = 2 8 6

(e) ◯ (8) (13) 3 9 3 − 1 8 9 = 2 0 4

(f) (5) (14) (13) 6 5 3 − 4 9 8 = 1 5 5

(g) (2) (9) (17) 3 0 7 − 1 9 9 = 1 0 8

(h) ◯ (3) (12) 3 4 2 − 2 1 9 = 1 2 3

(i) (3) (11) (13) 4 2 3 − 3 7 8 = 0 4 5

(j) (5) (12) (17) 6 3 7 − 2 8 9 = 3 4 8

(k) (6) (17) (14) 7 8 4 − 4 8 6 = 2 9 8

(l) (6) (9) (10) 7 0 0 − 2 8 8 = 4 1 2

Exercise 1.7

Do yourself according to the given example :

2 Four-digit Numbers

Exercise 2.1

1. Write the following numbers in expanded form :

[Fill the following numbers in boxes, respectively] :

(a) 1, 6, 8, 6 (b) 2, 3, 1, 9 (c) 6, 5, 4, 8

(d) 3, 5, 7, 8 (e) 8, 7, 6, 0.

2. Write the number represented by each abacus :

(a) 2143 (b) 4218 (c) 2046.

3. Write the number–names :

(a) 1,236 = One thousand two hundred thirty–six

(b) 3,672 = Three thousand six hundred seventy–two

(c) 5,400 = Five thousand four hundred

(d) 7,905 = Seven thousand nine hundred five

(e) 8,880 = Eight thousand eight hundred eighty.

4. Write in figures :

(a) 6,342 (b) 4,056 (c) 7,230

(d) 1,204 (e) 2,007

5. Write the next four numbers :

(a) 1022, 1023, 1024, 1025.

(b) 4279, 4280, 4281, 4282.

(c) 7006, 7007, 7008, 7009.

(d) 6332, 6333, 6334, 6335.

(e) 8457, 8458, 8459, 8460.

Exercise 2.2

Express these numbers in expanded notation :

(a) 4000 + 500 + 90 + 8 (b) 9000 + 800 + 00 + 9

(c) 7000 + 700 + 70 + 7 (d) 6000 + 500 + 90 + 0

(e) 5000 + 800 + 90 + 2 (f) 3000 + 400 + 50 + 4

(g) 2000 + 600 + 60 + 3 (h) 8000 + 300 + 20 + 1

(i) 7000 + 200 + 80 + 3 (j) 8000 + 400 + 50 + 1

Exercise 2.3

1. Write the place value of the underlined digits in the following numbers :

(a) 800, (b) 1, (c) 80,

(d) 2000, (e) 0, (f) 3000,

(g) 400, (h) 1, (i) 1000,

(j) 8000, (k) 90, (l) 500.

2. Write the place value of each digit in the following numbers :

(a) 3 — 3000, 2 — 200, 1 — 10, 6 — 6

(b) 2 — 2000, 3 — 300, 6— 60, 5 — 5

(c) 1 — 1000, 8 — 800, 3— 30, 0 — 0

(d) 9 — 9000, 1 — 100, 8 — 80, 0 — 0

(e) 3 — 3000, 5 — 500, 1 — 10, 7 — 7

(f) 4 — 4000, 5 — 500, 7 — 70, 3 — 3

(g) 2 — 2000, 8 — 800, 9 — 90, 0 — 0

(h) 3— 3000, 1 — 100, 3 — 30, 3 — 3

Exercise 2.4

1. Write the consecutive numbers between the following numbers :

(a) 6100, 6101, 6102, 6103, 6104, 6105

(b) 2001, 2002, 2003, 2004, 2005, 2006

(c) 3999, 4000, 4001, 4002, 4003, 4004

(d) 3577, 3578, 3579, 3580, 3581, 3582

(e) 5683, 5684, 5685, 5686, 5687, 5688

(f) 4024, 4025, 4026, 4027, 4028, 4029

(g) 1120, 1121, 1122, 1123, 1124, 1125

(h) 7000, 7001, 7002, 7003, 7004, 7005

(i) 6755, 6756, 6757, 6758, 6759, 6760

(j) 3205, 3206, 3207, 3208, 3209, 3210

2. Write five numbers forwards and backwards starting with the following numbers :

(a) Forwards → 1908, 1909, 1910, 1911, 1912
Backwards → 1908, 1907, 1906, 1905, 1904
(b) Forwards → 3989, 3990, 3991, 3992, 3993
Backwards → 3989, 3988, 3987, 3986, 3985
(c) Forwards → 7690, 7691, 7692, 7693, 7694
Backwards → 7690, 7689, 7688, 7687, 7686
(d) Forwards → 3399, 3400, 3401, 3402, 3403
Backwards → 3399, 3398, 3397, 3396, 3395
(e) Forwards → 2009, 2010, 2011, 2012, 2013
Backwards → 2009, 2008, 2007, 2006, 2005
(f) Forwards → 7354, 7355, 7356, 7357, 7358
Backwards → 7354, 7353, 7352, 7351, 7350
(g) Forwards → 8290, 8291, 8292, 8293, 8294
Backwards → 8290, 8289, 8288, 8287, 8286
(h) Forwards → 1345, 1346, 1347, 1348, 1349
Backwards → 1345, 1344, 1343, 1342, 1341

Exercise 2.5

Complete the following table :

Predecessor	Number	Successor
1134 – 1 = 1133	1134	1134 + 1= 1135
1239 – 1 = 1238	1239	1239 + 1 = 1240
1448 – 1 = 1447	1448	1448 + 1 = 1449
1758 – 1 = 1757	1758	1758 + 1 = 1759
2760 – 1 = 2759	2760	2760 + 1 = 2761
3764 – 1 = 3763	3764	3764 + 1 = 3765
4865 – 1 = 4864	4865	4865 + 1 = 4866
5735 – 1 = 5734	5735	5735 + 1 = 5736
3037 – 1 = 6036	6037	6037 + 1 = 6038
7048 – 1 = 7047	7048	7048 + 1 = 7049
7556 – 1 = 7555	7556	7556 + 1 = 7557
8273 – 1 = 8272	8273	8273 + 1 = 8274
9486 – 1 = 9485	9486	9486 + 1 = 9487

Exercise 2.6

1. Write >, < or = in the blanks :

3647 < 4867, 7733 > 7373, 999 < 1002,
3451 < 3468, 8045 < 9405, 9000 > 5000
7640 = 7640, 6489 > 6479, 4935 > 4930,
1463< 1863, 5445 > 4245 9064 < 9800,
5789 = 5789, 6000 > 5999 9346 < 9436.

2. Write the smaller number :

(a) 1014 (b) 3389 (c) 3256 (d) 6374

3. Write the greater number :

(a) 4875 (b) 4433 (c) 8420 (d) 8700

4. Ring (○) the smaller and tick (✓) the largest number :

(b) 9945 9965 ✓ 9954 9963 9948 (9932)
(c) 7695 7659 (7569) 7956 7596 7965 ✓
(d) 5200 5300 ✓ 5020 5030 5099 (5009)
(e) 9604 ✓ 3644 5549 (3230) 5958 7577

5. Write in descending order :

(a) 5430, 4846, 3167, 2200, 1359, 980
(b) 8000, 7000, 6000, 5000, 1000, 900
(c) 8439, 6875, 6659, 5650, 4934, 2389
(d) 9846, 9683, 8932, 8646, 7948, 7693
(e) 3965, 3956, 3695, 3659, 3596, 3569
(f) 4870, 4780, 4708, 4087, 4078, 870

6. Write in ascending order :

(a) 4035, 4053, 4305, 4350, 4503, 4530
(b) 300, 600, 800, 3000, 6000, 8000
(c) 3499, 3522, 4395, 4399, 5476, 6743
(d) 4444, 4613, 5830, 6349, 8922, 9643
(e) 3459, 3594, 4359, 4953, 5439, 5934
(f) 2028, 2082, 2208, 2280, 2802, 2820
(g) 5678, 5687, 7568, 7586, 7865, 8765

Exercise 2.7

Form the greatest and the smallest four-digit numbers with the given digits :

Digits	Greatest number	Smallest number
(a) 3,7,5,5	7553	3557
(b) 4,2,8,0	8420	2048
(c) 6,4,5,2	6542	2456
(d) 9,1,8,3	9831	1389
(e) 2,6,3,9	9632	2369
(f) 8,0,5,8	8850	5088
(g) 3,0,4,8	8430	3048
(h) 9,5,5,7	9755	5579
(i) 6,1,1,0	6110	1016
(j) 7,1,0,9	9710	1079
(k) 5,0,6,0	6500	5006
(l) 4,5,4,4	5444	4445

Revision

1. Fill in the blanks :

[Fill the blanks with the following digits, respectively] :
(a) 2, 5, 8, 9 (b) 4, 5, 6, 9 (c) 7, 0, 8, 0 (d) 9, 9, 3, 5

2. Express these numbers in expanded notation :

(a) 4000 + 500 + 90 + 8 (b) 2000 + 600 + 60 + 3
(c) 7000 + 700 + 50 + 5 (d) 5000 + 500 + 90 + 0

3. Write the place value of the coloured digits in the following numbers :

(a) 2 — 200 (b) 4 — 4000 (c) 1—1
(d) 8 — 8000 (e) 3 — 300 (f) 0 — 0
(g) 7 — 700 (h) 6 — 6000

4. Write in ascending order :

(a) 870, 4078, 4178, 4708, 4870
(b) 6349, 8022, 8922, 9604, 9643
(c) 3569, 3596, 3659, 3956, 3965
(d) 2200, 2202, 2220, 2280, 2809

5. Place proper sign (>, < or =) in the blanks :

(a) >, (b) < (c) >, (d) =

3 ADDITION

Exercise 3.1

1. Add these numbers :

(a) 135 + 241 = 376

(b) 887 + 111 = 998

(c) 324 + 542 = 866

(d) 436 + 532 = 968

(e) 305 + 274 = 579

(f) 226 + 673 = 899

(g) 289 + 410 = 699

(h) 602 + 377 = 979

(i) 413 + 121 + 44 = 578

(j) 187 + 201 + 610 = 998

(k) 123 + 452 + 214 = 789

(*l*) 237 + 512 + 150 = 899

2. Write in columns and add :

(a) 234 + 345 = 579

(b) 368 + 131 = 499

(c) 704 + 253 = 957

(d) 343 + 210 + 436 = 989

(e) 238 + 341 + 400 = 979

(f) 652 + 133 + 203 = 988

Exercise 3.2

1. Solve the following :

(a) 609 + 281 = 890

(b) 634 + 357 = 991

(c) 260 + 387 = 647

(d) 257 + 361 = 618

(e) 587 + 392 = 979

(f) 346 + 493 = 839

(g) 184 + 320 + 243 = 747

(h) 473 + 215 + 107 = 795

(i) 173 + 252 + 170 = 595

(j) 392 + 839 = 1231

(k) 963 + 476 = 1439

(l) 595 + 704 = 1299

(m) 953 + 622 + 210 = 1785

(n) 642 + 835 + 477 = 1954

(o) 322 + 835 + 461 = 1618

2. Write in columns and add :

(a) 322 + 249 = 571

(b) 167 + 208 + 75 = 450

(c) 652 + 207 + 138 = 997

(d) 271 + 345 = 616

(e) 182 + 263 = 445

(f) 290 + 315 + 121 = 726

(g) 652 + 531 = 1183

(h) 722 + 531 = 1253

(i) 562 + 703 + 411 = 1676

Exercise 3.3

Add these numbers :

(a) 3021 + 2735 = 5756

(b) 3523 + 3265 = 6788

(c) 4322 + 3053 = 7375

(d) 2135 + 5530 = 7665

(e) 5237 + 4152 = 9389

(f) 3003 + 2726 = 5729

(g) 6353 + 2446 = 8799

(h) 4527 + 2472 = 6999

(i) 3232 + 6767 = 9999

(j) 3182 + 4707 = 7889

(k) 4032 + 4867 = 8899

(l) 2132 + 4736 = 6868

(m) 3823 + 4176 = 7999

(n) 6721 + 2163 = 8884

(o) 7325 + 1254 = 8579

(p) 5327 + 4222 = 9549

Exercise 3.4

B. Add these numbers :

(a) ①①①
2758 + 4586 = 7344

(b) ①①①
3859 + 4542 = 8401

(c) ①①①
2177 + 4836 = 7013

(d) ①①①
2175 + 5975 = 8150

(e) ①①①
3176 + 4995 = 8171

(f) ①①①
2585 + 1578 = 4163

(g) ①①①
2375 + 4896 = 7271

(h) ①①①
6637 + 2888 = 9525

(i) ①①①
3808 + 4894 = 8702

(j) ①①①
4176 + 3878 = 8054

(k) ①①①
2175 + 3987 = 6162

(l) ①①①
5488 + 2696 = 8184

(m) ①①①
6783 + 1978 = 8761

(n) ①①①
7789 + 1465 = 9254

(o) ①①①
6475 + 1689 = 8164

(p) ①①①
7584 + 1576 = 9160

(q) ①①①
5298 + 2875 = 8173

(r) ①①①
4127 + 3986 = 8113

(s) ①①①
3572 + 4898 = 8470

(t) ①①①
7623 + 1898 = 9521

(u) ①①①
3834 + 2968 = 6802

(v) ①①①
6668 + 2888 = 9556

(w) ①①①
4379 + 4698 = 9077

(x) ①①①
3677 + 4897 = 8574

(y) ①①①
6466 + 2885 = 9351

(z) ①①①
2675 + 4865 = 7540

Exercise 3.5

Add these numbers :

(a) ①①①
3224 + 1075 + 2854 = 7153

(b) ①①①
2325 + 2048 + 1795 = 6168

(c) ①①①
3296 + 1824 + 1111 = 6231

(d) ①①①
4867 + 1527 + 2034 = 8428

(e) ①①①
2642 + 1835 + 4477 = 8954

(f) ①①②
3149 + 1927 + 2836 = 7912

(g) ②①①
1685 + 2571 + 1927 = 6183

(h) ○①①
1075 + 2325 + 1111 = 4511

(i) ①①②
2769 + 2836 + 3313 = 8918

(j) ①①①
5555 + 3685 + 0720 = 9960

(k) ①①①
3885 + 3477 + 2413 = 9775

(l) ①②②
3235 + 2467 + 1999 = 7701

Exercise 3.6

1. Fill in the blanks :

(a) 3137 (b) 574 (c) 6164, 0
(d) 0 (e) 0 (f) 1975
(g) 275 (h) 2916 (i) 4096
(j) 2564

Exercise 3.7

Solve the following questions :

1.
Toys produced in first week = 2248
Toys produced in next week = + 3652
Total toys produced = 5900 **Ans.**

2.
Rahul's votes = 2850
Sohan's votes = 3450
Mohan's votes = 2156
Rejected votes = + 48
Total votes polled = 8504 **Ans.**

3.
Bulbs produced on first day = 2438
Bulbs produced on second day = 2990
Bulbs produced on third day = + 3438
Total bulbs produced in three days = 8866 **Ans.**

4.
Rakesh's monthly expenditure = ` 8760
Rakesh's monthly savings = + ` 1230
Rakesh's monthly income = ` 9990 **Ans.**

5.
Cost of old scooter = ` 6249
Cost of its repair = + ` 2469
Total money Mohit spent = ` 8718 **Ans.**

6.
Coconut trees in the garden = 2149
Orange trees in the garden = 2649
Tamarind trees in the garden = 978
Mango trees in the garden = + 649
Total trees in the garden = 6425 **Ans.**

7. Pages read by Mohan = ₹ 1214
Pages yet to read = + ₹ 1219
Total pages in the storybooks = ₹ 2433 **Ans.**

8. Birds presented in the bird sanctuary = 6530
Birds came in winter season = + 3460
Total birds in the sanctuary = 9990 **Ans.**

Revision

1. Add the following numbers :

(a) 6354 + 3234 = 9588 (b) 2260 + 2130 = 4390 (c) 6654 + 3299 = 9953

(d) 5934 + 3944 = 9878 (e) 3149 + 1685 + 2571 = 7405 (f) 4867 + 2034 + 1299 = 8200

(g) 2395 + 3048 + 1695 = 7138 (h) 1927 + 2836 + 4993 = 9756

2. Fill in the blanks :

(a) 5259 (b) 3239, 3239 (c) 1234
(d) 1023 (e) 5440

3. Stamps Zaheer has = 2468
Stamps Amina has = + 2895
Total stamps they have = 5363 **Ans.**

4. Students in primary section = 1640
Students in middle section = 1001
Students in secondary section = + 984
Total students studying in the school = 3625 **Ans.**

5. Difference between two numbers = 1876
The smaller number = + 7948
So, the large number = 9824 **Ans.**

6. Single–storey buildings = 5617
Double–storey buildings = 2381
Triple–storey buildings = + 949
Total buildings in the town = 8947 **Ans.**

7. Monthly expenses of the hostel are :
Food = ₹ 3782
Rent = ₹ 748
Other items = + ₹ 1972
So, the total monthly expenditure of the hostel = ₹ 6502 **Ans.**

4 Subtraction

Exercise 4.1

Subtract the following numbers :

(a) 8863 − 7053 = 1810 (b) 7527 − 6105 = 1422 (c) 9832 − 7621 = 2211

(d) 7933 − 4821 = 3112 (e) 7587 − 3465 = 4122 (f) 5298 − 3163 = 2135

(g) 8647 − 5135 = 3512 (h) 9674 − 3152 = 6522 (i) 6849 − 2435 = 4414

(j) 5976 − 2851 = 3125 (k) 6975 − 4354 = 2621 (l) 4985 − 2173 = 2812

Exercise 4.2

1. Subtract these numbers :

(a) ⑥⑩⑯⑪ 7171 − 4282 = 2889 (b) ⑥⑪⑰⑬ 7283 − 4998 = 2285 (c) ⑦⑬⑫⑫ 8432 − 6897 = 1535

(d) ⑧⑫⑩⑫ 9312 − 4999 = 4313 (e) ③⑩⑫⑯ 4136 − 2837 = 1299 (f) ③⑬⑫⑫ 4432 − 2998 = 1434

(g) ⑦⑫⑪⑫ 8322 − 6948 = 1374 (h) ⑤⑫⑩⑫ 6312 − 2984 = 3328

2. Subtract and write :

(a) ⑥⑩⑫⑫ 7132 − 5849 = 1283 (b) ③⑫⑪⑮ 4325 − 2879 = 1446 (c) ③⑮⑯⑫ 4672 − 1986 = 2686

(d) ⑥⑩⑮⑬ 7163 − 1179 = 5984 (e) ③⑫⑬⑫ 4342 − 2895 = 1447 (f) ⑥⑩⑪⑬ 7123 − 4985 = 2138

(g) ⑤⑩⑩⑫ 6112 − 2984 = 3128 (h) ⑥⑱①⑱ 7828 − 6919 = 0909 (i) ⑦⑯⑬⑬ 8743 − 2988 = 5755

(j) ⑥ ⑰ ⑪ ⑪
7 8 2 1
− 4 8 7 5
2 9 4 6

(k) ⑤ ⑭ ⑪ ⑩
6 5 2 0
− 2 9 8 8
3 5 3 2

(l) ⑥ ⑮ ⑩ ⑰
7 6 1 7
− 3 9 2 9
3 6 8 8

(m) ⑥ ⑫ ⑬ ⑫
7 3 4 2
− 6 4 8 3
0 8 5 9

(n) ⑥ ⑮ ⑪ ⑫
7 6 2 2
− 2 9 8 5
4 6 3 7

(o) ⑦ ⑯ ⑪ ⑱
8 7 2 8
− 3 9 8 9
4 7 3 9

(p) ⑦ ⑪ ⑫ ⑩
8 2 3 0
− 5 9 8 5
2 2 4 5

(q) ⑤ ⑩ ⑪ ⑫
6 1 2 2
− 4 3 4 7
1 7 7 5

(r) ② ⑪ ⑰ ⑫
3 2 8 2
− 2 9 9 3
0 2 8 9

(s) ③ ⑪ ⑪ ◯
4 2 1 3
− 1 8 9 3
2 3 2 0

(t) ⑥ ⑫ ⑪ ⑪
7 3 2 1
− 4 8 5 7
2 4 6 4

(u) ⑥ ⑮ ⑫ ⑭
7 6 3 4
− 2 7 8 5
4 8 4 9

(v) ③ ⑩ ⑭ ⑰
4 1 5 7
− 2 9 9 8
1 1 5 9

(w) ② ⑬ ⑪ ⑫
3 4 2 2
− 2 8 6 8
0 5 5 4

(x) ⑤ ⑬ ⑪ ⑬
6 4 2 3
− 2 9 8 7
3 4 3 6

Exercise 4.3

1. Apples in the trees in the garden = 7 8 5 6
Apples fell down due to wind = − 2 9 7 7
So, apples still left in the garden = 4 8 7 9 **Ans.**

2. Sum of two numbers = 7 0 4 6
One number = − 1 4 2 6
So, the other number = 5 6 2 0 **Ans.**

3. Sum of two numbers = 8 0 0 0
One number = − 3 8 1 7
So, the other number that should be added = 4 1 8 3 **Ans.**

4. Price of the radio = ` 2 8 0 0
Price of the transistor = − ` 2 3 7 5
Difference of prices of both items = ` 4 2 5 **Ans.**
So, the radio costs more and by ` 425.

5. The population of the village = 6 2 1 3
The number of males = − 4 8 7 5
So, the number of females = 1 3 3 8 **Ans.**

6. Akash gave to the shopkeeper = ` 7 0 0 0
The cost of music system = − ` 6 2 1 0
So, Akash got back = ` 7 9 0 **Ans.**

7. Number of purchased nails = 5 5 0 0
Number of used nails = − 4 7 5 1
So, the nails that left = 7 4 9 **Ans.**

8. The given digits are 2,0,5,3.
Now, largest number formed by the digits = 5 3 2 0
The smallest number formed by the digits = − 2 0 3 5
So, the difference between them = 3 2 8 5 **Ans.**

Exercise 4.4

(b) Step 1: ① ◯ ①
9 3 5
+ 3 1 4 8
4 0 8 3

Step 2: ③ ⑨ ⑰ ⑬
4 0 8 3
− 1 9 8 6
2 0 9 7 **Ans.**

(c) Step 1: ① ① ① ◯
4 8 9 5
+ 2 7 5 8
7 6 5 3

Step 2: ⑥ ⑮ ⑭ ⑬
7 6 5 3
− 2 9 8 5
4 6 6 8 **Ans.**

(d) Step 1: ① ① ◯
8 4 2 0
+ 9 8 5
9 4 0 5

Step 2: ◯ ③ ⑨ ⑮
9 4 0 5
− 2 1 9 7
7 2 0 8 **Ans.**

(e) Step 1: ◯ ① ◯
7 1 9 8
+ 2 6 2 1
9 8 1 9

Step 2: ◯ ⑦ ⑪ ◯
9 8 1 9
− 2 5 3 6
7 2 8 3 **Ans.**

(f) Step 1: ◯ ① ◯
7 2 8 5
+ 1 2 6 3
8 5 4 8

Step 2: ⑦ ⑭ ⑭ ◯
8 5 4 8
− 2 9 5 0
5 5 9 8 **Ans.**

(g) Step 1: ① ① ◯
7 8 9 6
+ 1 3 6 2
9 2 5 8

Step 2: ⑧ ⑪ ⑮ ◯
9 2 5 8
− 3 4 7 2
5 7 8 6 **Ans.**

(h) Step 1: ◯ ◯ ◯
7 6 2 4
+ 1 0 0 0
8 6 2 4

Step 2: ⑦ ⑮ ⑪ ⑭
8 6 2 4
− 2 9 3 8
5 6 8 6 **Ans.**

Exercise 4.5

1. ① ◯ ◯
Sheets used by Ritu = 2 7 5 0
Sheets used by Prem = + 1 7 0 0
Sum of used sheets = 4 4 5 0

◯ ⑤ ⑩ ◯
Total sheets = 5 6 0 0
Number of used sheets = − 4 4 5 0
So, the sheets left = 1 1 5 0 **Ans.**

2. ① ① ①
2 2 7 4
+ 1 8 6 9
4 1 4 3

④ ⑨ ⑨ ⑩
5 0 0 0
− 4 1 4 3
0 8 5 7

The number of children = 857 **Ans.**

3.

$$\begin{array}{r} \bigcirc\,\textcircled{1}\,\textcircled{1}\,\\ 4\,2\,7\,5\\ +\,3\,2\,6\,9\\ \hline 7\,5\,4\,4\end{array} \qquad \begin{array}{r} \textcircled{6}\,\textcircled{14}\,\textcircled{14}\,\bigcirc\\ 7\,5\,4\,4\\ -\,3\,6\,5\,0\\ \hline 3\,8\,9\,4\end{array}$$

Soldiers remain in the camps = 3894. **Ans.**

4.

$$\begin{array}{r} \bigcirc\,\bigcirc\,\bigcirc\,\\ 2\,0\,0\,0\\ +\,1\,7\,8\,5\\ \hline 3\,7\,8\,5\end{array} \qquad \begin{array}{r} \bigcirc\,\textcircled{7}\,\textcircled{17}\,\bigcirc\\ 9\,8\,7\,5\\ -\,3\,7\,8\,5\\ \hline 6\,0\,9\,0\end{array}$$

The amount left with the man is ` 6090. **Ans.**

5.

$$\begin{array}{r} \textcircled{1}\,\textcircled{1}\,\textcircled{1}\,\\ 2\,2\,5\,1\\ +\,2\,9\,5\,9\\ \hline 5\,2\,1\,0\end{array} \qquad \begin{array}{r} \textcircled{4}\,\textcircled{12}\,\textcircled{17}\,\bigcirc\\ 5\,2\,1\,0\\ -\,2\,5\,0\,0\\ \hline 2\,7\,1\,0\end{array}$$

2710 students were from Indian. **Ans.**

6.

$$\begin{array}{r} \bigcirc\,\bigcirc\,\textcircled{1}\,\\ 3\,4\,0\,6\\ +\,2\,5\,6\,4\\ \hline 5\,9\,7\,0\end{array} \qquad \begin{array}{r} \bigcirc\,\bigcirc\,\bigcirc\,\bigcirc\\ 8\,9\,7\,6\\ -\,5\,9\,7\,0\\ \hline 3\,0\,0\,6\end{array}$$

3006 cards are left. **Ans.**

Revision

1. Find the difference :

(a) $\begin{array}{r} 4\,1\,6\\ -\,2\,7\,9\\ \hline 1\,3\,7\end{array}$ (b) $\begin{array}{r} 5\,0\,3\\ -\,3\,5\,2\\ \hline 1\,5\,1\end{array}$ (c) $\begin{array}{r} 9\,7\,6\\ -\,8\,3\,9\\ \hline 1\,3\,7\end{array}$

(d) $\begin{array}{r} 7\,1\,1\\ -\,3\,9\,8\\ \hline 3\,1\,3\end{array}$ (e) $\begin{array}{r} 4\,2\,1\,8\\ -\,2\,2\,0\,7\\ \hline 2\,0\,1\,1\end{array}$ (f) $\begin{array}{r} 9\,5\,3\,6\\ -\,4\,2\,1\,4\\ \hline 5\,3\,2\,2\end{array}$

(g) $\begin{array}{r} 2\,1\,0\,6\\ -\,1\,0\,0\,3\\ \hline 1\,1\,0\,3\end{array}$ (h) $\begin{array}{r} 8\,8\,6\,4\\ -\,4\,2\,3\,3\\ \hline 4\,6\,3\,1\end{array}$ (i) $\begin{array}{r} 5\,2\,1\,8\\ -\,4\,4\,0\,7\\ \hline 0\,8\,1\,1\end{array}$

(j) $\begin{array}{r} 6\,1\,0\,1\\ -\,4\,2\,1\,4\\ \hline 1\,8\,8\,7\end{array}$ (k) $\begin{array}{r} 2\,1\,0\,6\\ -\,1\,9\,6\,3\\ \hline 0\,1\,4\,3\end{array}$ (l) $\begin{array}{r} 9\,8\,7\,6\\ -\,5\,9\,9\,1\\ \hline 3\,8\,8\,5\end{array}$

2. Solve the following :

(a) $\begin{array}{r} 6\,8\,4\\ +\,2\,9\,3\\ \hline 1\,9\,7\,7\end{array}$ $\begin{array}{r} 9\,7\,7\\ -\,1\,4\,8\\ \hline 8\,2\,9\end{array}$ **Ans.**

(b) $\begin{array}{r} 9\,4\,8\\ +\,3\,3\,6\\ \hline 1\,2\,8\,4\end{array}$ $\begin{array}{r} 1\,2\,8\,4\\ -\,5\,8\,9\\ \hline 6\,9\,5\end{array}$ **Ans.**

(c) $\begin{array}{r} 8\,2\,5\\ +\,2\,5\,4\\ \hline 1\,0\,7\,9\end{array}$ $\begin{array}{r} (-)\;3\,2\\ +(-)\,4\,6\,8\\ \hline +\,5\,0\,0\end{array}$ $\begin{array}{r} 1\,0\,7\,9\\ -\,5\,0\,0\\ \hline 5\,7\,9\end{array}$ **Ans.**

(d) $\begin{array}{r} 1\,2\,8\\ 4\,6\,9\\ +\,4\,2\\ \hline 6\,3\,9\end{array}$ $\begin{array}{r} 6\,3\,9\\ -\,9\,8\\ \hline 5\,4\,1\end{array}$ **Ans.**

3. Number of bottles brought by children = 350
Number of consumed bottles = − 192
Number of bottles left = 158 **Ans.**

4. Students in camp A = 427
Students in camp B = + 326
Total number of students in both camps = 753 **Ans.**

Total students = 753
Students that had left = − 365
Number of students that remain in the camps = 388 **Ans.**

5. Amit gave to the shopkeeper = ` 59, 000
Cost of bike = − ` 58665
Amit got back = ` 0335 **Ans.**

6. Sheets Smita used = 2750
Sheets Prerna used = + 1700
Sum of used sheets = 4450

Total sheets = 5100
Used sheets = − 4450
Sheets that left = 650 **Ans.**

5 Multiplication

Exercise 5.1

1. Solve :

(a) There are 3 oxen :
One ox has 4 legs.
So, the number of legs is 3 times 4.
or, $4 + 4 + 4 = 12$
or $3 \times 4 = 12$

(b) There are 5 children.
One child has 10 fingers in two hands.
Total number of fingers is 5 times 10.
or $10 + 10 + 10 + 10 + 10 = 50$
or $5 \times 10 = 50$

2. Complete the following table :

Repeated Addition	Multiplication fact
(a)	$3 \times 4 = 12$
(b) $5+5+5+5+5+5+5=35$	
(c)	$6 \times 3 = 18$
(d) $6+6=12$	
(e)	$5 \times 4 = 20$

Exercise 5.2

1. Fill in the blanks :

(a) 7 (b) 1 (c) 0 (d) 0 (e) 2 (f) 9 (g) 7 (h) 4.

Exercise 5.3

Complete the following tables by filling the missing numbers :

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

Exercise 5.4

Find the product :

(a) ① 13 × 4 = 52 (b) ○ 21 × 6 = 126 (c) ④ 18 × 5 = 90

(d) ③ 24 × 8 = 192 (e) ② 64 × 6 = 384 (f) ○ 81 × 7 = 567

(g) ⑦ 48 × 9 = 432 (h) ⑦ 39 × 8 = 312 (i) ○ 60 × 9 = 540 (j) ① 82 × 9 = 738

Exercise 5.5

Find the product :

(a) ○○ 232 × 3 = 696 (b) ○○ 121 × 4 = 484 (c) ○○ 404 × 2 = 808

(d) ○○ 133 × 3 = 399 (e) ○○ 324 × 2 = 648 (f) ○○ 111 × 9 = 999

(g) ○○ 101 × 8 = 808 (h) ○○ 212 × 4 = 848 (i) ○② 105 × 5 = 525

(j) ○② 218 × 3 = 654 (k) ①① 234 × 4 = 936 (l) ③③ 365 × 6 = 2190

(m) ⑤⑤ 389 × 6 = 2334 (n) ①⑥ 817 × 9 = 7353 (o) ②④ 136 × 7 = 952

(p) ⑧⑧ 289 × 9 = 2601 (q) ⑦ 109 × 8 = 872 (r) ②⑤ 138 × 7 = 966

(s) ②④ 148 × 5 = 740 (t) ①① 122 × 8 = 976 (u) ○○ 332 × 3 = 996

(v) ○① 324 × 3 = 972 (w) ○② 119 × 3 = 357 (x) ②② 289 × 3 = 867

(y) ①○ 841 × 3 = 2523 (z) ○○ 233 × 3 = 699

Exercise 5.6

Find the product of shortcut method :

(a) 90	(b) 80	(c) 390	(d) 450
(e) 1980	(g) 3200	(g) 6750	(h) 5400
(i) 500	(j) 300	(h) 3400	(l) 4500
(m) 2900	(n) 9900	(o) 7800	(p) 6600
(q) 3000	(r) 8000	(s) 1000	(t) 9000
(u) 5000	(v) 4000	(w) 7000	(x) 6000

Exercise 5.7

Find the product :

(a) 680	(b) 560	(c) 880	(d) 1860
(e) 820	(f) 2450	(g) 960	(h) 6900
(i) 12800	(j) 8000	(k) 24800	(l) 55200
(m) 6000	(n) 19000	(o) 8600	(p) 6000
(q) 15500	(r) 8000.		

Exercise 5.8

Find the product :

(a) ○ 42 × 21 = 42 + 840 = 882 (b) ② 53 × 18 = 424 + 530 = 954 (c) ② 64 × 15 = 320 + 640 = 960

(d) ① 7 5 × 1 2 = 1 5 0 + 7 5 0 = 9 0 0

(e) ◯ 3 2 × 3 1 = 3 2 + 9 6 0 = 9 9 2

(f) ◯ 4 2 × 2 2 = 8 4 + 8 4 0 = 9 2 4

(g) ③ 3 4 × 1 9 = 3 0 6 + 3 4 0 = 6 4 6

(h) ① ① 2 5 × 3 2 = 5 0 + 7 5 0 = 8 0 0

(i) ① 2 7 × 2 1 = + 2 7 = 5 4 0 = 5 6 7

(j) ① ④ 4 3 × 2 2 = 8 6 + 8 6 0 = 9 4 6

(k) ① 3 7 × 2 7 = 2 5 9 + 7 4 0 = 9 9 9

(l) ① 2 8 × 2 1 = 2 8 + 5 6 0 = 5 8 8

(m) ◯ 2 3 × 1 2 = 4 6 + 2 3 0 = 2 7 6

(n) ◯ 3 4 × 1 1 = 3 4 + 3 4 0 = 3 7 4

(o) ③ 7 8 × 1 4 = 3 1 2 + 7 8 0 = 1 0 9 2

(p) ⑥ 9 7 × 1 9 = 8 7 3 + 9 7 0 = 1 8 4 3

(q) ③ 3 4 × 1 8 = 2 7 2 + 3 4 0 = 6 1 2

(r) ① 4 5 × 2 1 = 4 5 + 9 0 0 = 9 4 5

(s) ① ① 3 9 × 2 2 = 7 8 + 7 8 0 = 8 5 8

(t) ① 5 4 × 3 1 = 5 4 + 1 6 2 0 = 1 6 7 4

(u) ③ ④ 8 8 × 4 5 = 4 4 0 + 3 5 2 0 = 3 9 6 0

(v) ① ④ 3 5 × 4 8 = 2 8 0 + 1 4 0 0 = 1 6 8 0

(w) ◯ 5 0 × 6 9 = 4 5 0 + 3 0 0 0 = 3 4 5 0

(x) ◯ 4 8 × 2 1 = 4 8 + 9 6 0 = 1 0 0 8

Exercise 5.9

1. Find the product :

(a) ◯ ◯ 3 4 3 × 2 2 = 6 8 6 + 6 8 6 0 = 7 5 4 6

(b) ① ① ① ① 2 6 5 × 3 2 = 5 3 0 + 7 9 5 0 = 8 4 8 0

(c) ① ① 4 1 2 × 1 9 = 3 7 0 8 + 4 1 2 0 = 7 8 2 8

(d) ② ② 3 3 3 × 2 8 = 2 6 6 4 + 6 6 6 0 = 9 3 2 4

(e) ① ① 3 9 8 × 2 1 = 3 9 8 + 7 9 6 0 = 8 3 5 8

(f) ◯ ② 3 1 8 × 3 1 = 3 1 8 + 9 5 4 0 = 9 8 5 8

(g) ② ② ① ① 2 9 8 × 3 2 = 5 9 6 + 8 9 4 0 = 9 5 3 6

(h) ③ ③ ④ ④ 1 8 9 × 4 5 = 9 4 5 + 7 5 6 0 = 8 5 0 5

2. Find the product :

(a) ① ① 2 7 8 × 2 0 = 0 0 0 + 5 5 6 0 = 5 5 6 0

(b) ④ ③ 5 8 7 × 1 5 = 2 9 3 5 + 5 8 7 0 = 8 8 0 5

(c) ◯ ① 9 1 3 × 3 6 = 5 4 7 8 + 2 7 3 9 0 = 3 2 8 6 8

(d) ③ ③ 2 9 8 × 1 4 = 1 1 9 2 + 2 9 8 0 = 4 1 7 2

(e) ◯ ◯ 5 1 1 × 1 9 = 4 5 9 9 + 5 1 1 0 = 9 7 0 9

(f) 1 ① ◯ 5 5 0 × 2 3 = 1 6 5 0 + 1 1 0 0 0 = 1 2 6 5 0

Exercise 5.10

Solve the following word problems :

1. Seats in a bus = 82
So, the seats in 16 such buses = 82 × 16
= 1312 **Ans.**

◯ ① 8 2 × 1 6 = 4 9 2 + 8 2 0 = 1 3 1 2

2. Eggs one hen lays in a month = 14
Eggs laid by 352 hens in a month = 352 × 14
= 4928 **Ans.**

$$\begin{array}{r} 2\ \ \ \ \ \\ 3\ 5\ 2 \\ \times\ 1\ 4 \\ \hline 1\ 4\ 0\ 8 \\ +\ 3\ 5\ 2\ 0 \\ \hline 4\ 9\ 2\ 8 \\ \hline \end{array}$$

3. Pen in a packet = 24
So, the pen in 95 such packets = 95 × 25
= 2280 **Ans.**

$$\begin{array}{r} 1\ 2 \\ 9\ 5 \\ \times\ 2\ 4 \\ \hline 3\ 8\ 0 \\ +\ 1\ 9\ 0\ 0 \\ \hline 2\ 2\ 8\ 0 \\ \hline \end{array}$$

4. Juice cans in a carton = 142
So, the juice cans in 27 such cartons = 142 × 27
= 3834 **Ans.**

$$\begin{array}{r} 2\ 1\ \ \ \\ 1\ 4\ 2 \\ \times\ 2\ 7 \\ \hline 9\ 9\ 4 \\ +\ 2\ 8\ 4\ 0 \\ \hline 3\ 8\ 3\ 4 \\ \hline \end{array}$$

5. Balloons in a packet = 32
So, the balloons in 215 such packets = 215 × 32
= 6880. **Ans**

$$\begin{array}{r} 1\ \ \ \\ 2\ \ \ \\ 2\ 1\ 5 \\ \times\ 3\ 2 \\ \hline 4\ 3\ 0 \\ +\ 6\ 4\ 5\ 0 \\ \hline 6\ 8\ 8\ 0 \\ \hline \end{array}$$

6. Cost of a bag = `s256
So, the cost of 35 such bags = ` 256 × 35
= ` 8960 **Ans.**

$$\begin{array}{r} 1\ 1\ \ \ \\ 3\ 3\ \ \ \\ 2\ 5\ 6 \\ \times\ 3\ 5 \\ \hline 1\ 2\ 8\ 0 \\ +\ 7\ 6\ 8\ 0 \\ \hline 8\ 9\ 6\ 0 \\ \hline \end{array}$$

7. Bat made by factory in a day = 307
January has 31 days. = 307 × 31
So, the bats made by the factory in the month of January 9517 **Ans.**

$$\begin{array}{r} 2\ \ \ \\ 3\ 0\ 7 \\ \times\ 3\ 1 \\ \hline 3\ 0\ 7 \\ +\ 9\ 2\ 1\ 0 \\ \hline 9\ 5\ 1\ 7 \\ \hline \end{array}$$

8. Students sent by each school = 24
So, the students sent by 125 school = 125 × 24
= 3000 **Ans.**

$$\begin{array}{r} 1\ \ \ \\ 1\ 2\ \ \ \\ 1\ 2\ 5 \\ \times\ 2\ 4 \\ \hline 5\ 0\ 0 \\ +\ 2\ 5\ 0\ 0 \\ \hline 3\ 0\ 0\ 0 \\ \hline \end{array}$$

9. Flowers in each garland = 42
So, the flowers in 313 such garlands = 313 × 42
= 13146 **Ans.**

$$\begin{array}{r} 1\ 1\ \ \ \\ 3\ 1\ 3 \\ \times\ 4\ 2 \\ \hline 6\ 2\ 6 \\ +\ 1\ 2\ 5\ 2\ 0 \\ \hline 1\ 3\ 1\ 4\ 6 \\ \hline \end{array}$$

10. Cost of a shirt = ` 285
So, the cost of 37 such shirts = ` 285 × 37
= ` 10545 Ans.

$$\begin{array}{r} 2\ 1\ \ \ \\ 5\ 3\ \ \ \\ 2\ 8\ 5 \\ \times\ 3\ 7 \\ \hline 1\ 9\ 9\ 5 \\ +\ 8\ 5\ 5\ 0 \\ \hline 1\ 0\ 5\ 4\ 5 \\ \hline \end{array}$$

Revision

1. Find the product :

(a) 6 × 9 = 54 (b) 7 × 7 = 49
(c) 4 × 9 = 36 (d) 10 × 8 = 80
(e) 8 × 9 = 72 (f) 8 × 8 = 64
(g) 8 × 6 = 48 (h) 10 × 10 = 100
(i) 5 × 9 = 45 (j) 9 × 4 = 36
(k) 6 × 9 = 54 (*l*) 3 × 9 = 27

2. Fill in the blanks :

(a) 358 (b) 0 (c) 99
(d) 1 (e) 10 (f) 2700
(g) 1200 (h) 100 (i) 9

3. Multiply the following numbers :

(a)
$$\begin{array}{r} 1\ \ \ \\ 3\ \ \ \\ 2\ 1\ 6 \\ \times\ 3\ 6 \\ \hline 1\ 2\ 9\ 6 \\ +\ 6\ 4\ 8\ 0 \\ \hline 7\ 7\ 7\ 6 \\ \hline \end{array}$$

(b)
$$\begin{array}{r} 1\ \ \ \ \ \\ 2\ \ \ \ \ \\ 2\ 5\ 1 \\ \times\ 3\ 4 \\ \hline 1\ 0\ 0\ 4 \\ +\ 7\ 5\ 3\ 0 \\ \hline 8\ 5\ 3\ 4 \\ \hline \end{array}$$

(c)
$$\begin{array}{r} 4\ \ \ \\ 1\ \ \ \\ 2\ 9 \\ \times\ 5\ 2 \\ \hline 5\ 8 \\ +\ 1\ 4\ 5\ 0 \\ \hline 1\ 5\ 0\ 8 \\ \hline \end{array}$$

(d)
$$\begin{array}{r} 1\ \ \ \ \ \\ 3\ 2\ \ \ \\ 1\ 5\ 4 \\ \times\ 2\ 7 \\ \hline 1\ 0\ 7\ 8 \\ +\ 3\ 0\ 8\ 0 \\ \hline 4\ 1\ 5\ 8 \\ \hline \end{array}$$

(e)
$$\begin{array}{r} 2\ \ \ \\ 2\ \ \ \\ 3\ 7 \\ \times\ 4\ 3 \\ \hline 1\ 1\ 1 \\ +\ 1\ 4\ 8\ 0 \\ \hline 1\ 5\ 9\ 1 \\ \hline \end{array}$$

(f)
$$\begin{array}{r} 2\ \ \ \\ 2\ \ \ \\ 7\ 6 \\ \times\ 1\ 8 \\ \hline 6\ 0\ 8 \\ +\ 7\ 6\ 0 \\ \hline 1\ 3\ 6\ 8 \\ \hline \end{array}$$

(g)
$$\begin{array}{r} \overset{5}{\textcircled{}}\overset{6}{\textcircled{}} \\ 5\ 4\ 7 \\ \times\ \ 9 \\ \hline 4\ 9\ 2\ 3 \end{array}$$

(h)
$$\begin{array}{r} \overset{4}{\textcircled{}} \\ 7\ 6 \\ \times\ 7 \\ \hline 5\ 3\ 2 \end{array}$$

(i)
$$\begin{array}{r} \overset{3}{\textcircled{}}\overset{4}{\textcircled{}} \\ 3\ 5\ 7 \\ \times\ 6 \\ \hline 2\,1\ 4\ 2 \end{array}$$

(j)
$$\begin{array}{r} \overset{4}{\textcircled{}}\overset{2}{\textcircled{}} \\ 1\ 6\ 4 \\ \times\ 7 \\ \hline 1\,1\ 4\ 8 \end{array}$$

(k)
$$\begin{array}{r} {\scriptstyle 2\ 1} \\ \overset{4}{\textcircled{}}\overset{3}{\textcircled{}} \\ 2\ 7\ 6 \\ \times\ 3\ 6 \\ \hline 1\ 6\ 5\ 6 \\ +\ 8\ 2\ 8\ 0 \\ \hline 9\ 9\ 3\ 6 \end{array}$$

(l)
$$\begin{array}{r} {\scriptstyle 2\ 1} \\ \overset{4}{\textcircled{}}\overset{3}{\textcircled{}} \\ 7\ 3 \\ \times\ 3\ 4 \\ \hline 2\ 9\ 2 \\ +\ 2\ 1\ 9\ 0 \\ \hline 2\ 4\ 8\ 2 \end{array}$$

4. Complete the following :

(a) 109 (b) 0 (c) 1 (d) 10
(e) 100 (f) 0 (g) 100 (h) 0
(i) 0 (j) 1000 (k) 0 (l) 98000

5. Solve the following word problems :

(a) Pencils in 1 box = 12
Pencils in 6 boxes = 12 × 6 = 72 **Ans.**

(b) Candles in 1 packet = 32
Candles in 44 packets = 32 × 44
= 1408 **Ans.**

$$\begin{array}{r} 3\ 2 \\ \times\ 4\ 4 \\ \hline 1\ 2\ 8 \\ +\ 1\ 2\ 8\ 0 \\ \hline 1\ 4\ 0\ 8 \end{array}$$

(c) Tomatoes in 1 baskets = 131
Tomatoes in 9 basket = 131 × 9
= 1179 **Ans.**

$$\begin{array}{r} \overset{2}{\textcircled{}}\overset{}{\textcircled{}} \\ 1\ 3\ 1 \\ \times\ \ 9 \\ \hline 1\,1\ 7\ 9 \end{array}$$

(d) 1 school sent in dance competition = 100 students
98 school sent in dance competition = 100 × 98
= 9800 Students **Ans.**

6 Division

Exercise 6.1

1. Fill in the blanks :

(a) 15 ÷ 5 = 3 dividend 15, divisor 5, quotient 3
(b) 18 ÷ 3 = 6 dividend 18, divisor 3, quotient 6
(c) 12 ÷ 6 = 2 dividend 12, divisor 6, quotient 2
(d) 16 ÷ 4 = 4 dividend 16, divisor 4, quotient 4

2. Draw 21 beads. Put them equally in 3 threads.
21 ÷ 3 = 7 we will put 7 beads in each thread.

Exercise 6.2

1. Remove 2 laddoos repeatedly from each plate and put them in bags. How many bags will you pack with the ladoos?

(a) 14 ÷ 2 = 7 (b) 18 ÷ 2 = 9 (c) 22 ÷ 2 = 11

2. Write repeated subtraction for division facts :

(a) 8 – 4 = 4, 4 – 4 = 0; or 8 ÷ 4 = 2.
(b) 21 – 3 = 18, 18 – 3 = 15, 15 – 3 = 12, 12 – 3 = 9, 9 – 3 = 6, 6 – 3 = 3, 3 – 3 = 0; or 21÷ 3 = 7.
(c) 25 – 5 = 20, 20 – 5 = 15, 15 – 5 = 10, 10 – 5 =, 5 – 5 = 0; or 25 ÷ 5 = 5.

3. Find how many times 4 can be taken away from 24.
24 – 4 = 20, 20 – 4 = 16, 16 – 4 = 12, 12 – 4 = 8, 8 – 4 = 4, 4 – 4 = 0; or 24 ÷ 4 = 6.
So 4 can be taken away 6 times from 24.

4. How many 8s are there in 48 ?

48 – 8 → 1
40 – 8 → 2
32 – 8 → 3
24 – 8 → 4
16 – 8 → 5
8 – 8 → 6
0

So there are six 8s in 48 .

5. 54 flowers have to be arranged in 6 flower pots. Find the number of flowers in each pot.

54 – 6 → 1
48 – 6 → 2
42 – 6 → 3
36 – 6 → 4
30 – 6 → 5
24 – 6 → 6
18 – 6 → 7
12 – 6 → 8
6 – 6 → 9
0

So, there are 9 flowers in each pot. or 54 ÷ 6 = 9.

Exercise 6.3

1. Write division facts for multiplication facts :

(a) 30 ÷ 6 = 5, 30 ÷ 5 = 6 (b) 32 ÷ 4 = 8, 32 ÷ 8 = 4
(c) 27 ÷ 9 = 3, 27 ÷ 3 = 9 (d) 49 ÷ 7 = 7
(e) 54 ÷ 6 = 9, 54 ÷ 9 = 6 (f) 48 ÷ 8 = 6, 48 ÷ 6 = 8

2. Write multiplication facts for division facts :

(a) 7 × 2 = 14 (b) 10 × 2 = 20 (c) 4 × 3 = 12,
(d) 4 × 4 = 16 (e) 5 × 5 = 25 (f) 6 × 7 = 42,

3. Use Multiplication tables to find division facts :

(a) 1 × 3 = 3, 2 × 3 = 6, 3 × 3 = 9, 3 × 4 = 12, 3 × 5 = 15
so, **15 ÷ 3 = 5**

(b) $1 \times 2 = 2, 2 \times 2 = 4, 3 \times 2 = 6, 4 \times 2 = 8, 5 \times 2 = 10, 6 \times 2 = 12, 7 \times 2 = 14, 8 \times 2 = 16, 9 \times 2 = 18, 10 \times 2 = 20$; so, $20 \div 2 = 10$.

(c) $1 \times 9 = 9, 2 \times 9 = 18$; so, $18 \div 9 = 2$.

(d) $1 \times 7 = 7, 2 \times 7 = 14, 3 \times 7 = 21$; so, $21 \div 7 = 3$.

(e) $1 \times 4 = 4, 2 \times 4 = 8, 3 \times 4 = 12, 4 \times 4 = 16, 5 \times 4 = 20, 6 \times 4 = 24, 7 \times 4 = 28, 8 \times 4 = 32, 9 \times 4 = 36$; so, $36 \div 4 = 9$.

(f) $1 \times 8 = 8, 2 \times 8 = 16, 3 \times 8 = 24, 4 \times 8 = 32, 5 \times 8 = 40, 6 \times 8 = 48, 7 \times 8 = 56, 8 \times 8 = 64, 9 \times 8 = 72$; so, $72 \div 9 = 8$.

(g) $1 \times 9 = 9, 2 \times 9 = 18, 3 \times 9 = 27, 4 \times 9 = 36, 5 \times 9 = 45, 6 \times 9 = 54, 7 \times 9 = 63, 8 \times 9 = 72, 9 \times 9 = 81$; so, $81 \div 9 = 9$.

(h) $1 \times 4 = 4, 2 \times 4 = 8, 3 \times 4 = 16, 4 \times 4 = 12, 5 \times 4 = 20, 6 \times 4 = 24, 7 \times 4 = 28$; so, $28 \div 4 = 7$.

(i) $1 \times 10 = 10, 2 \times 10 = 20, 3 \times 10 = 30, 4 \times 10 = 40, 5 \times 10 = 50, 6 \times 10 = 60, 7 \times 10 = 70, 8 \times 10 = 80, 9 \times 10 = 90$; so, $90 \div 10 = 9$.

(j) $1 \times 8 = 8, 2 \times 8 = 16, 3 \times 8 = 24, 4 \times 8 = 32, 5 \times 8 = 40, 6 \times 8 = 48, 7 \times 8 = 56, 8 \times 8 = 64, 9 \times 8 = 72, 10 \times 8 = 80$; so, $80 \div 8 = 10$.

Exercise 6.4

1. Fill in the blanks :

(a) 8 (b) 39 (c) 14 (d) 17 (e) 14 (f) 100
(g) 1 (h) 1 (i) 1 (j) 0 (k) 0 (l) 0
(m) 7 (n) 12 (o) 1.

2. Write 'T' for true and 'F' for false statement :

(a) F (b) F (c) T (d) T

Exercise 6.5

1. Work out each problem :

(a) $1 \times 8 = 8, 2 \times 8 = 16, 3 \times 8 = 24, 4 \times 8 = 32, 5 \times 8 = 40, 6 \times 8 = 48, 7 \times 8 = 56, 8 \times 8 = 64$; so, $64 \div 8 = 8$.

(b) $1 \times 6 = 6, 2 \times 6 = 12, 3 \times 6 = 18, 4 \times 6 = 24, 5 \times 6 = 30, 6 \times 6 = 36, 7 \times 6 = 42, 8 \times 6 = 48, 9 \times 6 = 54$; so, $54 \div 6 = 9$.

(c) $1 \times 9 = 9, 2 \times 9 = 18, 3 \times 9 = 27, 4 \times 9 = 36, 5 \times 9 = 45, 6 \times 9 = 54, 7 \times 9 = 63, 8 \times 9 = 72, 9 \times 9 = 81$; so, $81 \div 9 = 9$.

(d) $1 \times 5 = 5, 2 \times 5 = 10, 3 \times 5 = 15, 4 \times 5 = 20, 5 \times 5 = 25, 6 \times 5 = 30, 7 \times 5 = 35, 8 \times 5 = 40, 9 \times 5 = 45, 10 \times 5 = 50$; so, $50 \div 5 = 10$.

(e) $0 \div 27 = 0$ (because 0 divided by any number gives 0.)

(f) $1 \times 8 = 8, 2 \times 8 = 16, 3 \times 8 = 24, 4 \times 8 = 32, 5 \times 8 = 40, 6 \times 8 = 48, 7 \times 8 = 56$; so, $56 \div 8 = 7$.

(g) $1 \times 9 = 9, 2 \times 9 = 18, 3 \times 9 = 27, 4 \times 9 = 36, 5 \times 9 = 45, 6 \times 9 = 54$; so, $54 \div 9 = 6$.

(h) $1 \times 7 = 7, 2 \times 7 = 14, 3 \times 7 = 21, 4 \times 7 = 28, 5 \times 7 = 35, 6 \times 7 = 42, 7 \times 7 = 49$; so, $49 \div 7 = 7$.

2. Write 'T' for true and 'F' for false and also write the correct answers in the boxes if false :

(b) T (c) F, 10 (d) T (e) F, 9
(f) F, 6 (g) F, 5 (h) F, 6 (i) T
(j) T (k) F, 20 (l) F, 7.

3. Insert the missing digits.

(a) $6 \times 6 = 36$, so the missing digit is 6.

(b) $9 \times 9 = 81$, so the missing digit is 8.

(c) $1 \times 6 = 6, 2 \times 6 = 12, 3 \times 6 = 18, 4 \times 6 = 24, 5 \times 6 = 30, 6 \times 6 = 36, 7 \times 6 = 42$; so the missing digit is 7.

4. Insert the missing digits :

(a) $10 \div 5 = 2$; so we will put 2 leaves in each group.

(b) $18 \div 6 = 3$; so there are 3 packets.

(c) $8 \div 2 = 4$; so there are 4 rats in each group.

Exercise 6.6

Solve the following by long division :

(a)
$$\begin{array}{r} 18 \\ 2\overline{)36} \\ -2 \\ \hline 16 \\ -16 \\ \hline 0 \end{array}$$
Quotient = 18

(b)
$$\begin{array}{r} 103 \\ 5\overline{)515} \\ -5 \\ \hline 015 \\ -15 \\ \hline 0 \end{array}$$
Quotient = 103

(c)
$$\begin{array}{r} 112 \\ 6\overline{)672} \\ -6 \\ \hline 07 \\ -6 \\ \hline 12 \\ -12 \\ \hline 0 \end{array}$$
Quotient = 112

(d)
$$\begin{array}{r} 261 \\ 3\overline{)783} \\ -6 \\ \hline 18 \\ -18 \\ \hline 03 \\ -3 \\ \hline 0 \end{array}$$
Quotient = 261

(e)
$$\begin{array}{r} 96 \\ 9\overline{)864} \\ -81 \\ \hline 54 \\ -54 \\ \hline 0 \end{array}$$
Quotient = 96

(f)
$$\begin{array}{r} 98 \\ 7\overline{)686} \\ -63 \\ \hline 56 \\ -56 \\ \hline 0 \end{array}$$
Quotient = 98

(g)
$$\begin{array}{r} 205 \\ 4\overline{)820} \\ -8 \\ \hline 020 \\ -20 \\ \hline 0 \end{array}$$
Quotient = 205

(h)
$$\begin{array}{r} 98 \\ 8\overline{)784} \\ -72 \\ \hline 64 \\ -64 \\ \hline 0 \end{array}$$
Quotient = 98

(i)
$$\begin{array}{r} 118 \\ 5\overline{)590} \\ -5 \\ \hline 09 \\ -5 \\ \hline 40 \\ -40 \\ \hline 0 \end{array}$$
Quotient = 118

(j)
$$\begin{array}{r} 117 \\ 6\overline{)702} \\ -6 \\ \hline 10 \\ -6 \\ \hline 42 \\ -42 \\ \hline 0 \end{array}$$
Quotient = 117

(k)
$$\begin{array}{r} 131 \\ 5\overline{)655} \\ -5 \\ \hline 15 \\ -15 \\ \hline 05 \\ -0 \\ \hline \end{array}$$
Quotient = 131

(l)
$$\begin{array}{r} 111 \\ 9\overline{)999} \\ -9 \\ \hline 09 \\ -9 \\ \hline 09 \\ -9 \\ \hline \end{array}$$
Quotient = 111

Exercise 6.7

See the picture and complete the following :

(a) There are 7 ducks, $7 \div 2$
3 groups and **1** is the remainder.

$$\begin{array}{r} 3 \\ 2\overline{)7} \\ -6 \\ \hline 1 \end{array}$$

(b) There are 14 frogs so, $14 \div 5$
2 groups and 4 is the remainder.

$$5\overline{)14}\quad -10\quad 4$$

(c) There are 11 butterflies. so, $11 \div 3$
3 groups and 2 is the remainder.

$$3\overline{)11}\quad -9\quad 2$$

Exercise 6.8

1. Divide and check the division. Find the quotient and remainder :

(a) $4\overline{)467}$, -4, 06, -4, 27, -24, 3

Quotient = 116, Remainder = 3
Checking :
Dividend = (Quotient × Divisor) + Remainder
$467 = (116 \times 4) + 3$
$= 464 + 3 = 467.$
So, division is correct.

(b) $5\overline{)544}$, -5, 044, -40, 4

Q = 108, R = 4
$544 = (108 \times 5) + 4$
$= 540 + 4 = 544.$
So, division is correct.

(c) $3\overline{)679}$, -6, 07, -6, 19, -18, 1

Q = 226, R = 1
$679 = (226 \times 3) + 1$
$= 678 + 1 = 679$
So, division is correct.

(d) $6\overline{)785}$, -6, 18, -18, 05

Q = 130, R = 5
$785 = (130 \times 6) + 5$
$= 780 + 5 = 785$
So, division is correct.

(e) $7\overline{)668}$, -63, 38, -35, 3

Q = 95, R = 3
$668 = (95 \times 7) + 3$
$= 665 + 3 = 668$
So, division is correct.

(f) $8\overline{)451}$, -40, 51, -48, 3

Q = 56, R = 3
$451 = (56 \times 8) + 3$
$= 448 + 3 = 451$
So, division is correct.

(g) $5\overline{)829}$, -5, 32, -30, 29, -25, 4

Q = 165, R = 4
$829 = (165 \times 5) = 4$
$= 825 + 4 = 829$
So, division is correct.

(h) $8\overline{)785}$, -72, 65, -64, 1

Q = 98, R = 8
$785 = (98 \times 8) + 1$
$= 784 + 1 = 785$
So, division is correct.

2. Divide and check the division. Find the quotient and remainder :

(a) $4\overline{)1035}$, -8, 23, -20, 35, -32, 3

Q = 285, R = 3
$1035 = (258 \times 4) + 3$
$= 1032 + 3 = 1035$
So, division is correct.

(b) $3\overline{)7693}$, -6, 16, -15, 19, -18, 13, -12, 1

Q = 2564, R = 1
$7693 = (2564 \times 3) + 1$
$= 7692 + 1 = 7693$
So, division is correct.

(c) $8\overline{)9342}$, -8, 13, -8, 54, -48, 62, -56, 6

Q = 1167, R = 6
$9342 = (1167 \times 8) + 6$
$= 9336 + 6 = 9342$
So, division is correct.

(d) $5\overline{)8036}$, -5, 30, -30, 036, -35, 1

Q = 1607, R = 1
$8036 = (1607 \times 5) = 1$
$= 8035 + 1 = 8036$
So, division is correct.

(e) $9\overline{)3405}$, -27, 70, -63, 75, -72, 3

Q = 378, R = 3
$3405 = (378 \times 9) = 3$
$= 3402 + 3 = 3405$
So, division is correct.

(f) 6) 5876 = 979
– 54
47
– 42
56
– 54
2

Q = 979, R = 2
5876 = (979 × 6) + 2
= 5874 + 2 = 5876
So, division is correct.

(g) 6) 8203 = 1367
– 6
22
– 18
40
36
43
– 42
1

Q = 1367, R = 1
8203 = (1367 × 6) + 1
= 8202 + 1 = 8203
So, division is correct.

(h) 8) 7843 = 980
– 72
64
– 64
03

Q = 980, R = 3
7843= (980 × 8) + 3
= 7840 + 3 = 7843
So, division is correct.

3. Solve and check your answer :

(a) 2) 64 = 32
– 6
04
– 4
0

Q = 32, R = 0
64 = (32 × 2) + 0
= 64 + 0 = 64
So, division is correct.

(b) 4) 84 = 21
– 8
04
– 4
0

Q = 21, R = 0
84 = (21 × 4) + 0
= 84 + 0 = 84
So, division is correct.

(c) 5) 53 = 10
– 5
03

Q = 10, R= 3
53 = (10 × 5) + 3
= 50 + 3 = 53
So, division is correct.

(d) 4) 282 = 70
– 28
02

Q = 70, R= 2
282 = (70 × 4) + 2
= 280 + 2 = 282
So, division is correct.

(e) 8) 720 = 90
– 72
00

Q = 90, R = 0
720 = (90 × 8) + 0
= 720 + 0 = 720
So, division is correct.

(f) 5) 652 = 130
– 5
15
– 15
02

Q = 130, R = 2
652 = (130 × 5) + 2
= 650 + 2 = 652
So, division is correct.

(g) 3) 1459 = 486
– 12
25
– 24
19
– 18
1

Q = 486, R = 1
1459 = (486 × 3) + 1
= 1458 + 1 = 1459
So, division is correct.

(h) 4) 6248 = 1562
– 4
22
– 20
24
– 24
08
– 8
0

Q = 1562, R = 0
6248 = (1562 × 4) + 0
= 6248 + 0 = 6248
So, division is correct.

(k) 7) 8472 = 1210
– 7
14
– 14
07
– 7
02

Q = 1210, R = 2
8472 = (1210 × 7) + 2
= 8470 + 2
= 8472
So, division is correct.

(j) 7) 704 = 100
– 7
004

Q = 100, R = 4
704 = (100 × 7) + 4
= 700 + 4 = 704
So, division is correct.

(k) 8) 2486 = 310
– 24
8
– 8
0 6

Q = 310, R = 6
2486 = (310 × 8) + 6
= 2480 + 6 = 2486.
So, division is correct.

(l) 5) 5492 = 1098
– 5
049
– 45
42
– 40
2

Q = 1098, R = 2
5492 = (1098 × 5) + 2
= 5490 + 2 = 5492
So, division is correct.

Exercise 6.9

Divide the following numbers by 10 :

(a) 10) 536 = 53
– 50
36
– 30
6

Q = 53, R = 6

(b) 10) 303 = 30
– 30
03

Q = 30, R = 3

(c)
```
   463
10)4636
  -40
   63
  -60
    36
   -30
     6
```
Q = 463, R = 6

(d)
```
   80
10)800
  -80
   00
```
Q = 80, R = 0

Exercise 6.10

Solve the following problems :

1. Glasses to pack = 84, Number of boxes = 7.
So, Number of glasses to be packed in each box is 84 ÷ 7.
12 Glass in each box. **Ans.**

```
  12
7)84
 -7
  14
 -14
   0
```

2. Number of players = 39, Number of teams = 5
So, number. of players in each team is 39 ÷ 5.
9 players in each team, 4 players are left. **Ans.**

```
  7
5)39
 -35
   4
```

3. Number of pencils = 5573, number of pencils in each bundle = 8.
So, number of bundles is 5573 ÷ 8. **Ans.**
696 Bundles 5 pencils are left.

```
   696
8)5573
 -48
   77
  -72
    53
   -48
     5
```

4. Pieces of sweets = 981**.** Each child gets 9 pieces.

So, number of children is 981 ÷ 9. 109 children. **Ans.**

```
  109
9)981
 -9
  081
 -81
   0
```

5. Number of books = 249, Number of shelves = 6
So, number of books in each shelf is 249 ÷ 6.
41 books in each shelf,
3 books are left. **Ans.**

```
  41
6)249
 -24
   09
  -6
   3
```

Revision

1. Write repeated subtraction for division factors :

(a) 99 – 9 = 90, 90 – 9 = 81, 81 – 9 = 81 – 9 = 72, 72 – 9 = 63, 63 – 9 =54, 54 – 9 = 45, 45 – 9 = 36, 36 – 9 = 27, 27 – 9 = 18, 18 – 9 = 9, 9 – 9 = 0. So, 99 ÷ 9 = 11.

(b) 28 – 7 = 21, 21 – 7 = 14, 14 – 7 =7, 7 – 7 = 0. So, 28 ÷ 7 = 4.

(c) 24 – 3 = 21, 21 – 3 = 18, 18 – 3 = 15, 15 – 3 12, 12 – 3 = 9, 9 – 3 = 6, 6 – 3 = 3, 3 – 3 = 0. So, 24 ÷ 3 = 8.

(d) 18 – 3 = 15, 15 – 3 = 12, 12 – 3 = 9, 9 – 3 = 6, 6 – 3 = 3, 3 – 3 = 0. So 18 ÷ 3 = 6.

(e) 12 – 2 = 10, 10 – 2 = 8, 8 – 2 = 6, 6 – 2 = 4, 4 – 2 = 2, 2 – 2 = 0; so, 12 ÷ 2 = 6.

(f) 48 – 8 = 40, 40 – 8 = 32, 32 – 8 = 24, 24 – 8 = 16, 16 – 8 = 8, 8 – 8 = 0; so, 48 ÷ 8 = 6.

2. Fill in the blanks :

(a) 88 (b) 37 (c) 12 (d) 49 (e) 13
(f) 7 (g) 0 (h) 0 (i) 0.

3. Solve using long division method :

(a) 42 ÷ 4
```
  10
4)42
 -4
  02
```
Q = 10, R = 2

(b) 76 ÷ 8
```
   9
8)76
 -72
   4
```
Q = 9, R = 4

(c) 496 ÷ 9
```
   55
9)496
 -45
   46
  -45
    1
```
Q = 55, R = 1

(d) 102 ÷ 3
```
  34
3)102
 -9
  12
 -12
   0
```
Q = 34, R = 0

(e) 253 ÷ 6
```
   42
6)253
 -24
   13
  -12
    1
```
Q = 42, R = 1

(f) 5318 ÷ 5
```
  1063
5)5318
 -5
  031
 -30
   18
  -15
    3
```
Q = 1063, R = 3

(g) 4801 ÷ 7
```
   685
7)4801
 -42
   60
  -56
    41
   -35
     6
```
Q = 685, R = 6

(h) 6417 ÷ 8
```
   802
8)6417
 -64
   017
  -16
    1
```
Q = 802, R = 1

4. Divide and check your answer :

(a) 67 ÷ 3
```
  22
3)67
 -6
  07
 -6
  1
```
Q = 22, R = 1
Dividend = (Quotient × Divisor) + Remainder
67 = (22 × 3) + 1
= 66 + 1 = 67
So, answers is correct.

(b) $728 \div 9$

$$\begin{array}{r} 80 \\ 9\overline{)728} \\ -72 \\ \hline 08 \\ \hline \end{array}$$

Q = 80, R = 8
728 = (80 × 9) + 8
= 720 + 8 = 728
So, answer is correct.

(c) $385 \div 4$

$$\begin{array}{r} 96 \\ 4\overline{)385} \\ -36 \\ \hline 25 \\ -24 \\ \hline 1 \\ \hline \end{array}$$

Q = 96, R = 1
385 = (96 × 4) + 1
= 384 + 1 = 385
So, answer is correct.

(d) $2273 \div 7$

$$\begin{array}{r} 324 \\ 7\overline{)2273} \\ -21 \\ \hline 17 \\ -14 \\ \hline 33 \\ -28 \\ \hline 5 \\ \hline \end{array}$$

Q = 324, R= 5
2273 = (324 × 7) + 5
= 2268 + 5 = 2273
So, answer is correct.

5. Without dividing, write the quotient and remainder :

(a) Q = 4, R = 7 (b) Q = 54, R = 7
(c) Q = 80, R = 0 (d) Q = 45, R = 9.

6. Solve the following problems :

(a) Number of passengers = 49, Number of vans = 7
So, the number of passengers in one van is $49 \div 7$.

$$\begin{array}{r} 7 \\ 7\overline{)49} \\ -49 \\ \hline 0 \\ \hline \end{array}$$

7 passengers in one van. **Ans.**

(b) Number of envelopes = 76, Number of bags = 6.
So, the numbers of envelopes in each bag is $76 \div 9$.

$$\begin{array}{r} 12 \\ 6\overline{)76} \\ -6 \\ \hline 16 \\ 12 \\ \hline 4 \\ \hline \end{array}$$

12 envelopes in each bag 7, 4 envelopes are left. **Ans.**

(c) Number of litchis = 435, Number of bunches = 9
So, the numbers of litchis in each bunch is $435 \div 9$.

$$\begin{array}{r} 48 \\ 9\overline{)435} \\ -36 \\ \hline 75 \\ -72 \\ \hline 3 \\ \hline \end{array}$$

48 litchis in each bunch, 3 litchis are left. **Ans.**

7 Fractions

Exercises. 7.1, 7.2, 7.3 : Do yourself.

Exercise 7.4

1. Write the fractions for the shaded parts :

(a) $\frac{2}{3}$ (b) $\frac{3}{4}$ (c) $\frac{1}{3}$
(d) $\frac{2}{3}$ (e) $\frac{3}{6}$ or $\frac{1}{2}$ (f) $\frac{2}{4}$ or $\frac{1}{2}$
(g) $\frac{1}{4}$ (h) $\frac{1}{2}$

2. Tick (✓) the shapes where $\frac{1}{2}$ part is shaded :

(b) ✓ (c) ✓ (e) ✓
(g) ✓ (h) ✓

3. Tick (✓) the shapes where $\frac{1}{4}$ part is shaded :

(a) ✓ (c) ✓ (d) ✓
(e) ✓ (g) ✓

4. Write what fraction of the whole is unshaded :

(a) $\frac{5}{6}$ (b) $\frac{3}{6}$ or $\frac{1}{4}$ (c) $\frac{3}{8}$
(d) $\frac{4}{8}$ or $\frac{1}{2}$ (e) $\frac{3}{5}$ (f) $\frac{5}{7}$

5. Do yourself.

6. Write the fractions in figures :

(a) Half = $\frac{1}{2}$ (b) quarter = $\frac{1}{4}$
(c) three-fourth = $\frac{3}{4}$ (d) one-sixth = $\frac{1}{6}$
(e) two-fifth = $\frac{2}{5}$ (f) five-eighth = $\frac{5}{8}$
(g) seven-tenth = $\frac{7}{10}$ (h) seven by nine = $\frac{7}{9}$
(i) three by ten = $\frac{3}{10}$

7. Write in words :

(a) $\frac{1}{3}$ = one by three (b) $\frac{2}{9}$ = two by nine
(c) $\frac{3}{7}$ = three by seven (d) $\frac{3}{8}$ = three by eight
(e) $\frac{9}{12}$ = nine by twelve (f) $\frac{5}{7}$ = five by seven
(g) $\frac{2}{7}$ = two by seven (h) $\frac{4}{10}$ = four by ten
(i) $\frac{2}{6}$ = two by six

8. Write the numerator and denominator of the following fractions :

(a) N = 1, D = 3 (b) N = 7, D = 9 (c) N = 2, D = 5
(d) N = 7, D = 12 (e) N = 8, D = 13
(f) N = 5, D = 17

9. Write the fraction, whose :

(a) $\frac{3}{5}$ (b) $\frac{6}{11}$ (c) $\frac{2}{13}$
(d) $\frac{3}{10}$ (e) $\frac{1}{8}$

10. Fill in the blanks :

(a) Two (b) Five (c) Nine
(d) Four (e) Sixteen

Exercise 7.5

1., 2., 3 : Do yourself.

4. What fraction of the collection is shaded :

(a) $\frac{4}{8}$ or $\frac{1}{2}$ (b) $\frac{3}{9}$ or $\frac{1}{3}$ (c) $\frac{1}{10}$

5. Fill in the blanks :

(a) $\frac{1}{3}$ of $15 = \frac{15}{3} = 5$ (b) $\frac{1}{5}$ of $10 = 2$ (c) $\frac{1}{6}$ of $18 = 3$

(d) $\frac{1}{2}$ of $16 = 8$ (e) $\frac{1}{7}$ of $49 = 7$ (f) $\frac{1}{4}$ of $32 = 8$

6. Solve the following problems :

(a) Total number of apples = 9
Apples given out of total = 5
Thus, Numerator = 5, Denominator = 9

So, Neha gave $\frac{5}{9}$ apples to her brother from her apples.

(b) Stories the storybook contains = 15

Radha read the stories = $\frac{1}{3}$ of $15 = \frac{15}{3} = 5$

So Radha read 5 stories.

(c) Number of monkeys = 12

Number of monkeys in the tree = $\frac{1}{4}$ of $12 = \frac{12}{4} = 3$

So, 3 monkeys are there in the tree.

(d) Students in the class = 23

Students present on Monday = 19 or $\frac{19}{23}$

Absent students = 23 – 19 = 4 or $\frac{4}{23}$

So, the fraction of absent students is $\frac{4}{23}$.

8 Geometry

Exercise 8.1

1. Do yourself.

2. How many triangles are there in these figures :

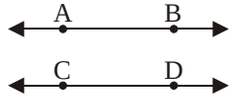
(a) 16 (b) 13

Exercise 8.2

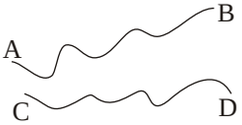
1. Draw two each of the following and name them :

(a) • A • B

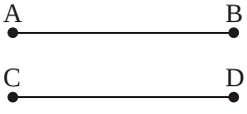
(b)



(c)



(d)



2. Name the figures shown :

(b) Ray QN or $\overrightarrow{QN}$ (c) Line $\overleftrightarrow{OQ}$

3. Name the line segments in the given figures :

(a) $\overline{PQ}$, $\overline{QR}$, $\overline{RP}$ (b) $\overline{AB}$, $\overline{BC}$, $\overline{CD}$, $\overline{DA}$

(c) $\overline{LM}$, $\overline{MN}$, $\overline{NK}$, $\overline{KL}$

4., 5., 6 : Do yourself.

Exercise 8.3

1. Tick (✓) the open figures and cross (✗) the closed figures :

(a) ✓ (b) ✗ (c) ✓
(d) ✗ (e) ✓ (f) ✓
(g) ✗ (h) ✓ (i) ✗
(j) ✓

2, 3 : Do yourself.

Exercise 8.4

Do yourself.

Exercise 8.5

1. In which pictures the shaded shapes are tile designs?

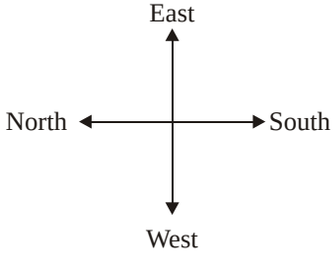
In pictures (d), (e) and (f), the shaded shapes are tile designs.

2. Here are some shapes. Can each of these be used to make tile design? Tick (✓) the shapes that can be used to make tile designs :

No; each of these shapes cannot be used to make tile design. Only shapes (a), (c), (d), (e) and (f) can be used to make tile designs.

Exercise 8.6

1. Write the compass points :



2. Tick (✓) the correct answer :

(i) (a) ✓ (ii) (c) ✓
(iii) (a) ✓ (iv) (c) ✓

Exercise 9.1

Convert he following :

[Fill in the blanks] :

(a) 80 (b) 90 (c) 140
(d) 160 (e) 210 (f) 540.

Exercise 9.2

Convert the following :

(a) 5 m 4 dm into dm

5 m 4 dm = (5 × 10) dm + 4 dm
= 50 dm + 4 dm = 54 dm **Ans.**

(b) 6 m 3 dm into dm.

6 m 3 dm = (6 × 10) dm + 3 dm
= 60 dm + 3 dm = 63 dm **Ans.**

(c) 9 m 2 dm into dm.

9 m 2 dm = (9 × 10) dm + 2 dm
= 90 dm + 2 dm = 92 dm **Ans.**

Exercise 9.3

Convert the following :

[Fill in the blanks :]

(a) 220 (b) 430 (c) 360
(d) 160 (e) 540 (f) 340.

Exercise 9.4

Convert the following :

(a) 5 dm 6 cm into cm.

5 dm 6 cm = (5 × 10) cm + 6 cm
= 50 cm + 6 cm = 56 cm **Ans.**

(b) 11 dm 3 cm into cm.

11 dm 3 cm = (11 × 10) cm + 3 cm
= 110 cm + 3 cm = 113 cm **Ans.**

(c) 21 dm 5 cm into cm.

21 dm 5 cm = (21 × 10) cm + 5 cm
= 210 cm + 5 cm = 215 cm **Ans.**

Exercise 9.5

Convert the following :

[Fill in the blanks] :

(a) 1200 (b) 4200 (c) 3200
(d) 1400 (e) 1600 (f) 6300.

Exercise 9.6

Convert the following :

(a) 8 m 73 cm into cm.

8 m 73 cm = (8 × 100) cm + 73 cm
= 800 cm + 73 cm = 873 cm **Ans.**

(b) 23 m 37 cm into cm.

23 m 37 cm = (23 × 100) cm + 37 cm
= 2300 cm + 37 cm = 2337 cm **Ans.**

(c) 19 m 4 cm into cm.

19 m 4 cm = (19 × 100) cm + 4 cm
= 1900 cm + 4 cm = 1904 cm **Ans.**

Exercise 9.7

1. Convert the following :

[Fill in the blanks] :

(a) 3 (b) 65 (c) 16
(d) 42 (e) 7 (f) 2

2. Convert the following :

(a) 50 m into dm.

50 m = (50 × 10) dm
= 500 dm **Ans.**

(b) 66 m into dm.

66 m = (66 × 10) dm
= 660 dm **Ans.**

(c) 7 m 2 dm into dm.

7 m 2 dm = (7 × 10) dm + 2 dm
= 70 dm + 2 dm = 72 dm **Ans.**

(d) 13 m 6 dm into dm.

13 m 6 dm = (13 × 10) dm + 6 dm
= 130 dm + 6 dm = 136 dm **Ans.**

(e) 6 dm into cm.

6 dm = (6 × 10) cm
= 60 cm **Ans.**

(f) 49 dm into cm.

49 dm = (49 × 10) cm
= 490 cm **Ans.**

(g) 5 dm 5 cm into cm.

5 dm 5 cm = (5 × 10) cm + 5 cm
= 50 cm + 5 cm = 55 cm **Ans.**

(h) 13 dm 6 cm into cm.

13 dm 6 cm = (13 × 10) cm + 6 cm
= 130 cm + 6 cm = 136 cm **Ans.**

(i) Covert 6 m into cm

6 m = (6 × 100) cm
= 600 cm **Ans.**

(j) 26 m into cm

26 m = (26 × 100) cm
= 2600 cm **Ans.**

(k) 9 dm 36 cm into cm.

9 dm 36 cm = (9 × 10) cm + 36 cm
= 90 cm + 36 cm = 126 cm **Ans.**

(l) 10 m into cm.

10 m = (10 × 100) c m = 1000 cm **Ans.**

(m) 300 cm into m.

$1 \text{ cm} = \frac{1}{100} \text{ m}$

$300 \text{ cm} = \frac{300}{100} \text{ m} = 3\text{m}$ **Ans.**

(n) 10 m 5 cm into cm.

10 m 5 cm = (10 × 100) cm + 5 cm
= 1000 cm + 5 cm = 1005 cm **Ans.**

(o) 3400 cm into m.

$1\text{ cm} = \frac{1}{100}\text{ m}$

3400 cm = ——— **Ans.**

(p) 200 cm into m.

1 cm = ——

——— **Ans.**

(q) 1600 cm into m.

1 cm = ——

1600 cm = ———

(r) 4800 cm into m.

1 cm = ——

4800 cm = ———

10 Measurement of Mass

Exercise 10.1

Convert the following :

Fill in the blanks :

(a) 9000	(b) 13000	(c) 4000
(d) 8000	(e) 6000	(f) 36000
(g) 19000	(h) 5000	(i) 21000
(j) 11000.		

Exercise 10.2

Convert the following :

(a) 7 kg 361 g into g.
7 kg 361 g = (7 × 1000) g + 361 g
= 7000 g + 361 g = 7361 g **Ans.**

(b) 9 kg 43 g into g.
9 kg 43 g = (9 × 1000) g + 43 g
= 9000 g + 43 g = 9043 g **Ans.**

(c) 11 kg 34 g into g.
11 kg 34 g = (11 × 1000) g + 34 g
= 11000 g + 34 g = 11034 g **Ans.**

(d) 18 kg 99g into g
18 kg 99g = (18 × 1000)g + 99g
= 18000g + 99 g = 18099 g **Ans.**

Exercise 10.2

1. (a) 2 kg (b) 6 kg (c) 7 kg
(d) 8 kg (e) 11 kg (f) 14 kg

2. (a) 4 kg into g
4 kg = (4 × 1000) g
= 4000 g **Ans.**

(b) 7 kg into g
7 kg = (7 × 1000) g = 7000 g **Ans.**

(c) 15 kg into g
15 kg = (15 × 1000) g = 15000 g **Ans.**

(d) 18 kg into g
18 kg = (18 × 1000) g = 18000 g **Ans.**

(e) 7 kg 195 g into g.
7 kg 195 g = (7 × 1000) g + 195 g
= 7000 g + 195 g = 7195 g **Ans.**

(f) 2 kg 871 g into g.
2 kg 871 g = (2 × 1000) g + 871 g
= 2000 g + 871 g = 2871 g **Ans.**

(g) 11 kg 45 g into g.
11 kg 45 g = (11 × 1000) g + 45 g
=11000 g + 45 g = 11045 g **Ans.**

(h) 4 kg 36 g into g.
4 kg 36 g = (4 × 1000) g + 36 g
= 4000 g + 36 g = 4036 g **Ans.**

(i) 3000 g into kg. ——

——

(j) 23000 g into kg.

1 g = ——

23000 g = ———

(k) 14000 g into kg.

1 g = ——

14000 g = ———

(l) 16000 g into kg.

1 g = ——

16000 g = ———

11 Measurement of Capacity

Exercise 11.1

Convert the following :

[Fill in the blanks] :

(a) 8000	(b) 11000	(c) 6000
(d) 41000	(e) 3000	(f) 17000.

Exercise 11.2

Convert the following :

(a) 6 *l* 118 *ml* into *ml*.

6 *l* 118 *ml* = (6 × 1000) *ml* + 118 *ml*

= 6000 *ml* + 118 *ml* = 6118 *ml* **Ans.**

(b) 3 *l* 426 *ml* into *ml*.

3 *l* 426 *ml* = (3 × 1000) *ml* + 426 *ml*

= 3000 *ml* + 426 *ml* = 3426 *ml* **Ans.**

(c) 4 *l* 109 *ml* into *ml*.

4 *l* 109 *ml* = (4 × 1000) *ml* + 109 *ml*

= 4000 *ml* + 109 *ml* = 4109 *ml* **Ans.**

Exercise 11.3

1. Convert the following :

[Fill in the blanks]:

(a) 6 (b) 12 (c) 3

(d) 7 (e) 5 (f) 31.

2. Convert the following :

(a) 2 *l* into *ml*.

2 *l* = (2 × 1000) *ml* = 2000 *ml* **Ans.**

(b) 5 *l* into *ml*.

5 *l* = (5 × 1000) *ml* = 5000 *ml* **Ans.**

(c) 13 *l* into *ml*.

13 *l* = (13 × 1000) *ml* = 13000 *ml* **Ans.**

(d) 42 *l* into *ml*.

42 *l* = (42 × 1000) *ml* = 42000 *ml* **Ans.**

(e) 7 *l* 287 *ml* into *ml*.

7 *l* 287 *ml* = (7 × 1000) *ml* + 287 *ml*

= 7000 *ml* + 287 *ml* = 7287 *ml* **Ans.**

(f) 12 *l* 713 *ml* into *ml*.

12 *l* 713 *ml* = (12 × 1000) *ml* + 713 *ml*

= 12000 *ml* + 713 *ml* = 12713 *ml* Ans.

(g) 10 *l* 16 *ml* into *ml*.

10 *l* 16 *ml* = (10 × 1000) *ml* + 16 *ml*

= 10000 ml + 16 ml = 10016 *ml* **Ans.**

(h) 14 *l* 236 *ml* into *ml*.

14 *l* 236 *ml* = (14 × 1000) *ml* + 236 *ml*

= 14000 *ml* + 236 *ml* = 14236 *ml* **Ans.**

(i) 4000 *ml* into *l*.

$$1\ ml = \frac{1}{1000} l$$

$$4000\ ml = \frac{4000}{1000} l = 4\ l$$ **Ans.**

(j) 63000 *ml* into *l*.

$$1\ ml = \frac{1}{1000} l$$

$$63000\ ml = \frac{63000}{1000} l = 63\ l$$ **Ans.**

(k) 31000 *ml* into *l*.

$$1\ ml = \frac{1}{1000} l$$

$$31000\ ml = \frac{31000}{1000} l = 31\ l$$

(l) 17000 *ml* into *l*.

$$1\ ml = \frac{1}{1000} l$$

$$17000\ ml = \frac{17000}{1000} l = 17\ l$$

12 Time

Exercise 12.1

1. Look at the clock and read the correct time :

(a) 11:00 (b) 7:30 (c) 3:15 (d) 6:45

2. Do raw the hands of the clock to show the given time :

1'clock

2:30

12:15

4:45

Exercise 12.2

1. Write the time as minute past the hour or minutes to the next hour :

(b) 10:10 = 10 minutes past 10

(c) 9:25 = 25 minutes past 9

(d) 3:45 = 15 minutes to 4

2. Do yourself.

Exercise 12.3

1. Write the time using a.m. or p.m. :

(a) 4:00 a.m. (b) 5:15 p.m. (c) 8:30 p.m.

(d) 8:15 a.m. (e) 10:40 a.m. (f) 2:05 p.m.

(g) 5:50 p.m. (h) 8:45 p.m. (i) 7:15 p.m.

2. Put a tick mark (✓) on the correct time :

(a) a.m.✓ (b) a.m.✓ (c) p.m.✓

(d) p.m.✓ (e) p.m.✓

Exercise 12.4

1. Convert the hours to minutes :

[Fill in the blanks :[

(b) 12 × 60, 720 (c) 15 × 60, 900

(d) 6 × 60, 360 (e) 11 × 60, 660.

2. Convert the hours and minutes into minutes :

[Fill in the blanks :]

(a) 340 (b) 505 (c) 255

(d) 550 (e) 605 (f) 725.

3. Convert the number of days to hours :

[Fill in the blanks :]

(a) 2 × 24 hours, 48 (b) 9 × 24 hours, 216

(c) 11 × 24 hours, 264 (d) 12 × 24 hours, 288

(e) 15 × 24 hours, 360 (f) 20 × 24 hours, 480

4. Convert the days and hours to hours :

[Fill in the blanks :]

(a) 77 (b) 146 (c) 126 (d) 82.

5. Convert the following weeks into days :

(a) 1 week = 7 days

7 weeks = 7 × 7 days = 49 days **Ans.**

(b) 1 week = 7 days

11 weeks = 11 × 7 days = 77 days **Ans.**

(c) 1week = 7 days

5 weeks = 5 × 7 days = 35 days **Ans.**

(d) 1 week = 7 days

52 weeks = 52 × 7 days = 364 days **Ans.**

6. Convert months into days :

(a) 1 month = 30 days

10 months = 10 × 30 days = 300 days **Ans.**

(b) 1 month = 30 days

18 months = 18 × 30 days = 540 days **Ans.**

(c) 1 month = 30 days

6 months = 6 × 30 days = 180 days **Ans.**

(d) 1 month = 30 days

11 months = 11 × 30 days = 330 days **Ans.**

Exercise 12.5

1. Answer the following questions :

(a) 12 months (b) 7 months (c) 4 months.

2. Look at the current year calender and answer :

(a) _____ days, (b) _____ weeks

(c) (i) Republic Day (ii) Independence Day

(iii) Children Day (iv) Christmas Day.

(d) _____ 05 _____ .

Exercise 12.6

1. Write :

[Fill in the blanks :]

(a) Day before

(i) Monday (ii) Friday (iii) Sunday

Fill in the blanks:

(b) Day between

(i) Thursday (ii) Tuesday (iii) Friday

2. Fill in the table :

	Month before	Month between	Month after
(a)	**January**	February	March
(b)	May	**June**	July
(c)	October	November	**December**

3. Answer the following questions :

(a) July, August, 31 days each, (b) Yes (c) No

(d) After 4 years, in 2016, Pooja will celebrate her next birthday.

4. Write the dates in the form date/month/year :

(a) 08/02/2014 (b) 11/07/2010

(c) 04/05/2013

5. Pranav was born on 5th March 2010 :

(a) 7 years (b) 05/03/2015.

13 Money

Exercise 13.1

1. Write the given amount in words :

(a) ` 48.90 = Rupees forty-eight and paise ninety.

(b) ` 25.08 = Rupees twenty-five and paise eight.

(c) ` 18.25 = Rupees eighteen and paise twenty-five.

(d) ` 62.07 = Rupees sixty-two and paise seven.

(e) ` 0.50 = Paise fifty.

(f) ` 67.00 = Rupees sixty-seven.

2. Write the following amount in figures :

(a) ` 37.12 (b) ` 23.84 (c) ` 59.46

(d) ` 278.00 (e) ` 40.03 (f) ` 100.05

Exercise 13.2

1. Convert rupees into paise :

(a) ` 7 = (7 × 100) paise = 700 pasie **Ans.**

(b) ` 40 = (40 × 100) paise = 4000 paise **Ans.**

(c) ` 8.25 = (8 × 100) paise + 25 paise

= 800 paise + 25 paise = 825 paise **Ans.**

(d) ` 99.99 = (99 × 100) paise + 99 paise

= 9900 paise + 99 paise = 9999 paise **Ans.**

(e) ` 20.09 = (20 × 100) paise + 9 paise

= 2000 paise + 9 paise = 2009 paise **Ans.**

(f) ` 9.02 = (9 × 100) paise + 2 paise

= 900 paise + 2 paise = 902 paise **Ans.**

2. Convert paise into rupees :

(a) 600 p $1\text{ p} = ₹\ \frac{1}{100}$

$600\text{ p} = ₹\ \frac{600}{100} = ₹\ 6.00$ **Ans.**

(b) 1300 p $1\text{ p} = ₹\ \frac{1}{100}$

$₹\ \frac{1300}{100} = ₹\ 13.00$ **Ans.**

(c) 745 p 745 p = 700 p + 45 p
= ` $\frac{700}{100}$ + 45 p
= ` 7 + 45 p = ` 7.45

(d) 2010 p 2010 p = 2000 p + 10 p
= ` 20 + 10 p = ` 20.10

(e) 40 p 40 p = ` 0 + 40 p
= ` 0.40

(f) 55 p 55 p = ` 0 + 55 p
= ` 0.55

(g) 523 p 523 p = 500 p + 23 p
= ___
= ` 5 + 23 p = ` 5.23 Ans.

(h) 4400 p 1 p = ___
4400 p = ___

(i) 1158 p 1158 p = 1100 p + 58 p
= ___
= ` 11 + 58 p = ` 11.58 **Ans.**

Exercise 13.3

1. Add the following :

(a)
`	P
3 7 5 . 0 0	
+ 9 8 7 . 9 0	
1 3 6 2 . 9 0	

(b)
`	P
1 1 2 . 9 5	
+ 7 3 9 . 3 0	
8 5 2 . 2 5	

(c)
`	P
5 3 4 . 9 0	
+ 7 1 4 . 6 5	
1 2 4 9 . 5 5	

(d)
`	P
4 5 6 . 7 5	
+ 5 2 3 . 4 5	
9 8 0 . 2 0	

2. Arrange in columns and add :

(a)
`	P
7 2 1 . 5 0	
+ 3 1 2 . 7 5	
1 0 3 4 . 2 5	

(b)
`	P
9 8 1 . 7 5	
+ 1 1 4 . 5 0	
1 0 9 6 . 2 5	

(c)
`	P
5 7 4 . 2 5	
+ 4 5 0 . 9 5	
1 0 2 5 . 2 0	

3. Subtract the following :

(a)
`	P
8 4 6 . 5 0	
− 2 1 5 . 7 5	
6 3 0 . 7 5	

(b)
`	P
9 7 6 . 5 0	
− 2 2 2 . 0 0	
7 5 4 . 5 0	

(c)
`	P
4 8 7 . 8 0	
− 1 2 9 . 3 0	
3 5 8 . 5 0	

(d)
`	P
9 5 0 . 0 0	
− 8 3 6 . 7 5	
1 1 3 . 2 5	

(e)
`	P
8 1 1 . 3 2	
− 5 3 6 . 0 0	
2 7 5 . 3 2	

(f)
`	P
3 7 5 . 5 0	
− 1 2 7 . 5 0	
2 4 8 . 0 0	

4. Arrange in columns and subtract :

(a) ■ ■ (b) ■ ■ (c) ■ ■

Exercise 13.4

1. Multiply and write the answer in rupees :

(b) 45 p × 9 = 405 p = ` 4.05 Ans.
(c) 55 p × 7 = 385 p = ` 3.85 Ans.
(d) ` 3.15 × 6 = 1890 p = ` 18.90 Ans.

2. Multiply the following :

(a)
`	P
6 3 . 1 5	
× . 2	
1 2 9 . 3 0	

(b)
`	P
2 1 . 7 5	
× . 8	
1 7 4 . 0 0	

(c)
`	P
4 5 . 2 5	
× . 4	
1 8 1 . 0 0	

(d)
`	P
3 7 . 3 5	
× . 6	
2 2 4 . 1 0	

3. Divide the following :

(a) ` 84 ÷ 4

$4\overline{)84}(21$
-8
04
-4
0

Answer = ` 21

(b) ` 60.60 ÷ 4

$4\overline{)60.60}(15.15$
-4
20
-20
6
-4
20
-20
0

Answer = ` 15.15

(c) ` 40 ÷ 5

$5\overline{)40}(8$
-40
0

Answer = ` 8

(d) ` 284 ÷ 4

$4\overline{)284}(71$
-28
4
-4
0

Answer = ` 71

(e) ` 46.25 ÷ 5

$5\overline{)46.25}(9.25$
-45
12
-10
25
-25
0

Answer = ` 9.25

(f) ` 70.14 ÷ 7

$7\overline{)70.14}(10.02$
-7
014
-14
0

Answer = ` 10.02

(g) ` 216 ÷ 6

$$\begin{array}{r} 6\overline{)216}(36 \\ -18 \\ \hline 36 \\ -36 \\ \hline 0 \end{array}$$

Answer = ` 36

(h) ` 75.70 ÷ 5

$$\begin{array}{r} 5\overline{)75.70}(15.14 \\ -5 \\ \hline 25 \\ -25 \\ \hline 07 \\ -5 \\ \hline 20 \\ -20 \\ \hline 0 \end{array}$$

Answer = ` 15.14

Exercise 13.5

Solve the following problems :

1.

		`	P
Cost of pen	=	10	.00
Cost of pencil	=	5	.50
Cost of notebook	=	+25	.75
Total exp. **Ans.**	=	41	.25

Nidhi spent ` 41.25.

2.

		`	P
Cost of vegetables	=	145	.75
Cost of fruits	=	+234	.50
Total exp.	=	380	.25

Mother spent ` 380.25 **Ans.**

3.

		`	P
Money with me	=	100	.00
Paid for crayons	=	−85	.30
Money left with me	=	14	.70

` 14.70 left with me. **Ans.**

4.

		`	P
Sneha gave to shopkeeper	=	500	.00
Cost of medicines	=	−265	.30
Shopkeeper returned to Sneha	=	234	.70

Shopkeeper returned to Sneha ` 234.70. **Ans.**

5.

		`	P
Cost of 1 biscuit packet	=	5	.20
Cost of 5 biscuit packets	=	×	. 5
		26	.00

5 biscuit packets will cost ` 26. **Ans.**

6.

		`	P
Cost of 1 pen	=	9	.75
Cost of 8 pens	=	×	. 8
		78	.00

8 pens will cost ` 78. **Ans.**

7. Cost of 6 boxes of orange = ` 180

Cost of 1 box of orange = ` 180 ÷ 6

$$\begin{array}{r} 6\overline{)180}(30 \\ -18 \\ \hline 0 \end{array}$$

Cost of 1 box of orange is ` 30. **Ans.**

8. 4 person pay entrance free = ` 37

So, entrance fee for one person was = ` 37 ÷ 4

$$\begin{array}{r} 4\overline{)37.00}(9.25 \\ -36 \\ \hline 10 \\ -8 \\ \hline 20 \\ -20 \\ \hline 0 \end{array}$$

The entrance fee of the park per person was ` 9.25 **Ans.**

Exercise 13.6

These are the prices of some items on Mr Sameer's stationary shop :

1. (a) Bill for Rita :

Sl. No.	Item	Quantity	Rate per item (`)	Cost (`)
1.	Wrapping paper	5	15.00	75.00
2.	Eraser	2	4.00	8.00
3.	Sheet of paper	10	0.50	5.00
			Total	88.00

(b) Bill for Seema :

Sl. No.	Item	Quantity	Rate per item (`)	Cost (`)
1.	Pair of scissors	1	35.00	35.00
2.	Sharpener	3	5.00	15.00
3.	Eraser	2	4.00	8.00
			Total	58.00

2.

		`	P
Rita gave to Mr Sameer	=	100	.00
Bill for Rita	=	−88	.00
Mr. Sameer returned	=	12	.00

		`	P
Seema gave to Mr. Sameer	=	100	.00
Bill for Sameer	=	−58	.00
Mr Sameer returned	=	42	.00

So, Mr Sameer returned ` 12.00 to Rita and ` 42.00 to Seema.

Revision

1. Convert :

[Use : ` 1 = 100 p; p = ` $\frac{1}{100}$]

(a) ` 8.25 = 8.25 × 100 p
= 825 p **Ans.**

(b) ` 4 = 4 × 100 p
= 400 p **Ans.**

(c) ` 0.87 = 0.87 × 100 p
= 87 p **Ans.**

(d) 6213 p = 6213 × ` $\frac{1}{100}$
= ` 62.13 **Ans.**

2. Fill in the blanks :

(a)

`	P
13	20
32	26
+ 49	65
95	11

Answer : ` 95.11

(b)

`	P
85	69
− 39	99
45	70

Answer : ` 45.70

(c) 67 p × 3 = 201 p

201 p = 201 × ` $\frac{1}{100}$

Answer = ` 2.01

(d)

`	P
86	28
×	7
603	96

Answer : ` 603.96

(e) ` 82 ÷ 2

2) 82 (41
− 8
02
− 2
0

Answer : ` 41

3. Add/Subtract the following :

(a) ` 23.20 + ` 31.10 + ` 10.20 = ` 64.50

Working :

`	P
23	20
31	10
+ 10	20
64	50

Answer : ` 64.50

(b)

`	P
85	69
− 49	89
35	80

Answer : ` 35.80

(c)

`	P
67	00
+ 2	32
69	32

Answer : ` 69.32

(d) ` 2.50 + ` 1.50 – ` 1

Working : *Step 1:*

`	P
.	
.	
.	

Answer : ` 3.00

Step 2 :

`	P
4	00
− 1	00
3	00

(e)

`	P
32	15
− 12	35
19	80

Answer : ` 19.80

(f)

`	P
54	25
− 25	75
80	00

Answer : ` 28.50

4. Multiply the following :

(a)

`	P
70	15
×	2
140	30

(b)

`	P
11	85
×	7
82	95

(c)

`	P
45	15
×	3
135	45

(d)

`	P
23	05
×	5
115	25

5. Divide the following :

(a) ` 33.12 ÷ 8

8) 33.12 (4.14
− 32
11
− 8
32
− 32
0

Answer : ` 4.14

(b) ` 54.36 ÷ 6

6) 54.36 (9.06
− 54
036
− 36
0

Answer : ` 9.06

(c) 105 p ÷ 3

3) 105 (35
− 9
15
− 15
0

Answer : 35 p

(d) 7000 p ÷ 5

5) 7000 (1400
− 5
20
− 20
000

Answer : 1400 p

(e) ` 46.40 ÷ 4

4) 46.40 (11.60
− 4
06
− 2
24
− 24
00

Answer : ` 11.60

(f) ` 256 ÷ 4

4) 256 (64
− 24
16
− 16
0

Answer : ` 64

6. Solve the following problems :

(a) Comparing the costs :

Cost of ball pen ` 19.25 — 1 = 1

Cost of gel pen ` 16.75 — 9 > 6

So, cost of ball pen is more

Working :

		`	P
Cost of ball pen	=	19	25
Cost of gel pen	= −	16	75
Difference	=	2	50

Thus, the ball pen is costlier and by ` 2.50 **Ans.**

(b) Cost of 3 toffees $= 3 \times .75$ p
$= 225$ p

$= 225 \times \frac{1}{100}$ `

$=$ R 2.25

Cost of 2 packets of biscuits $= 4.25 \times 2$
$=$ R 8.50

I spent $=$ R 2.25 + = R 8.50
= = R 10.75 **Ans.**

(c)

		`		P
Mrs Sharma had	=	1 2 5	.	5 0
She spent	= −	5 0	.	0 0
Money left with her	=	7 5	.	5 0

` 75.50 were left with Mrs. Sharma.

(d) 9 cushion-covers cost = ` 81.18
1 cushion-cover costs = ` 81.18 ÷ 9
Working :

```
9)81.18(9.02
 −81
  0 18
  − 18
    0
```

(e) 6 children get = ` 54.36
1 child gets = ` 54.36 ÷ 6
So, each child gets ` 9.06. **Answer**
Working :

```
6)54.36(9.06
 −54
    36
  − 36
    00
```

14 Data Handing

Exercise 14.1

1. Put the tally marks in the blanks against the number :

Number	Tally marks	Number	Tally marks
1	𝍸	6	𝍸 𝍸
2	𝍸 𝍸	7	𝍸 𝍸 𝍸
3	𝍸 𝍸 𝍸	8	𝍸 𝍸 𝍸 𝍸
4	𝍸 𝍸 𝍸 𝍸	9	𝍸 𝍸 𝍸 𝍸 𝍸
5	𝍸	10	𝍸 𝍸

Exercise 14.2

Do yourself

Exercise 14.3

1. The following pictograph shows the number of comics read by four students. Each picture represents 2 books :

(a) Total number of books = Total number of pictures × 2
$= (4 + 2 + 3 + 5) \times 2 = 14 \times 2$
= 28 books **Ans.**

(b) Swati ($5 \times 2 = 10$ books).

(c) Three students [Arnav ($4 \times 2 = 8$ books), Ajay ($3 \times 2 = 6$ books), Swati ($5 \times 2 = 10$ books)]

2. Study the pictograph well and answer the following questions :

(a) Caps ($5 \times 5 = 25$) (b) 15 girls ($5 \times 3 = 15$)

(c) 20 children ($4 \times 5 = 20$)

Page 5 : Numeral – Number-name
9522 – Nine thousand five hundred twenty- two
8017 – Eight thousand seventeen
1505 – One thousand five hundred- five
3425 – Three thousand four hundred twenty -five

Recap Exercise

1. Write the following numbers in words :
(a) 7906 = Seven thousand nine hundred six
(b) 4875 = Four thousand eight hundred seventy-five
(c) 5080 = Five thousand eighty.
(d) 3569 = Three thousand five hundred sixty-nine

2. Write in figures :
(a) 2410 (b) 5712 (c) 9999 (d) 1000

3. Fill in the boxes with >, < or = sign :
(a) >, (b) > (c) =, (d) <.

4. Fill in the blanks with the correct number :
(a) 4999 + 1 = 5000 (b) 6000 – 1 = 5999
(c) 1000 – 1 = 999 (d) 999 + 10 = 1009

5. Using the digits 5, 0, 2 and 4, write the following :
Greatest number = 5420 Smallest number = 2045

6. Write in short form :
(a) 2222 (b) 6074 (c) 1065 (d) 9008

7. Arrange in ascending order :
(a) 2278, 2782, 2872, 7822, 8722
(b) 2345, 3014, 5967, 6825, 8153

8. Arrange in descending order :
(a) 5710, 5207, 2181, 1708, 1075
(b) 4532, 4513, 2347, 1325, 1234

Exercise 1.1

1. Write the following numbers in a place value chart and give the place value of the underlined digit :

Place value chart

	Number	L	T. Th	Th	H	T	O	Place value of
(a)	78246	–	7	8	2	4	6	2→200
(b)	29745	–	2	9	7	4	5	2→20,000
(c)	30 458	–	3	0	4	5	8	0→0
(d)	694270	6	9	4	2	7	0	6→6,00,000
(e)	814271	8	1	4	2	7	1	4→4,000

2. Mark the periods by placing the commas and write the number names for the following :
(a) 76542 = 76,542 → Seventy-six thousands five hundred forty-two.
(b) 89746 = 89,746 → Eighty-nine thousand seven hundred forty-six.
(c) 308491 = 3,08,491 → Three lakh eight thousands four hundred ninety-one.
(d) 217486 = 2,17,486 → Two lakh seventeen thousand four hundred eighty-six.
(e) 568472 = 5,68,472 → Five lakh sixty-eight thousand four hundred seventy-two.

3. Write the numerals for the following number-names with the help of a place value chart :

Place value chart

Number	L	TTh	Th	M	T	O	Numeral
(a)	–	7	8	2	4	9	= 78,249
(b)	–	6	9	8	7	0	= 69,870
(c)	9	2	0	0	1	4	= 9,20,014
(d)	7	0	4	3	0	9	= 7,04,309

4. Mark the periods by placing the commas and write the periods place, place value and the face value of the underlined digits.

Number	Number with period marks	Digit	Period	Place	Place value	Face value
(a) 874965	8,74,965	9	Ones	Hundreds	9×100 = 900	9
(b) 708294	7,08,294	8	Ones	Thousands	8×1000 = 8000	8
(c) 675489	6,75,489	8	Ones	Tens	8×10 = 80	8
(d) 7289456	72,89,456	8	thousands	Ten thousands	8×10000 = 80,000	8
(e) 3470961	34,70,961	4	Lakh	Lakhs	4×10000 = 40000	4
(f) 5087609	50,87,609	5	Lakhs	Tenlakhs	5×100000 = 5,00,000	5

5. Name the place in the thousands period :
Place in the thousands period are : Ten thousands and thousands.

6. Name the period which comes after the thousands period.
Lakhs Period.

7. Write the greatest 5-digit number in words :
Ninety-nine thousands nine hundred ninety-nine.

8. Write the smallest 7-digit number in figures by separating periods. 10,00,000

9. Complete the following number patterns :
(a) 76894, 76994, 77094
(b) 132359, 142359, 152359
(c) 306102, 316102, 326102
(d) 601204, 701204, 801204

10. (a) 20425 → 20426, 20427, 20428, 20429, 20430.
(b) 142417 → 142418, 142419, 142420, 142421, 142422.

11. Answer the following questions for the number 128937 :
(a) Place value of digit 2 = 2 × 10,000 = 20,000.
(b) Place value of digit 9 = 9 × 100 = 900.
(c) Digit whose place value is 8000 = 8.

Exercise 1.2

1. Write the numbers in expanded from :
(a) 74924 = 70000 + 4000 + 900 + 20 + 4.
(b) 60847 = 60000 + 800 + 40 + 7.
(c) 359761 = 300000 + 50000 + 9000 + 700 + 60 + 1.
(d) 287409 = 200000 + 80000 + 7000 + 400 + 9.
(f) 5028745 = 5000000 + 20,000 + 8000 + 700 + 40 + 5.
(g) 3908173 = 3000000 + 900000 + 8000 + 100 + 70 + 3.

2. Write the short form for each the following :
(a) = 7000000 + 80000 + 2000 + 900 + 60 + 5
= 7,82,965
(b) = 400000 + 20000 + 900 + 80 + 3
= 4,20,983

(c) = 700000 + 50000 + 9000 + 400 + 20 + 6
= 7,59,426
(d) = 600000 + 80000 + 400 + 90
= 6,80,490
(e) = 78,43,967. (f) 5,09,368.

Exercise 1.3

1. Marks the periods and compare using <, > or = sign in the blanks :

(a) 70,542 < 81,964 (b) 69,745 > 69,452
(c) 36,481 > 35,489 (d) 5,07,894 = 5,07,894
(e) 6,45,427 < 7,29,684 (f) 3,49,625 > 3,29,176
(g) 8,96711 > 8,79454 (h) 1,45,317 < 1,54,317
(i) 24,41326 > 24,14362.

2. Arrange the following in ascending order :

(a) 42795, 50869, 69457, 72815
(b) 197546, 308426, 438795, 569541
(c) 548275, 569874, 584725, 598175
(d) 690541, 691218, 692418, 694218

3. Arrange the following in descending order :

(a) 65781, 54187, 20549, 19680
(b) 817492, 618045, 396452, 209586
(c) 287490, 278609, 247896, 247854
(d) 827904, 827490, 827409, 827049

Exercise 1.4

1. Form the smallest and greatest numerals with the following digits :

(a) (i) Smallest = 24689 Greatest = 98642
(ii) Smallest = 70789 Greatest = 98770
(iii) Smallest = 10689 Greatest = 98610
(b) (i) Smallest = 105689 Greatest = 986510
(ii) Smallest = 123457 Greatest = 754321
(iii) Smallest = 102357 Greatest = 753210
(c) (i) Smallest = 1012458 Greatest = 8542110
(ii) Smallest = 1034689 Greatest = 9864310
(iii) Smallest = 1024789 Greatest = 9874210

2. Form the smallest and greatest 6-digit numerals by repeating any 2 digits :

(a) 7, 9, 5, 4.
after repeating 2 digits = 7, 7, 9, 9, 5, 4
Now Greatest number = 997754
Smallest number = 457799
(b) 3, 8, 0, 4
after repeating 2 digits = 3, 8, 0, 0, 4, 4
Now, smallest number = 300448
Greatest number = 844300
(c) 6, 2, 9, 0
After repeating 2 digits = 6, 2, 2, 9, 9, 0
Now, Smallest number = 202699
Greatest number = 996220

3.

Place value chart							
114	L	TTH	TH	H	T	O	
Priya wrote	9	9	O	O	O	O	✗
Should write	9	O	9	O	O	O	✓

Thus, correct numerals should be 909000.

4. Choose any 2 digits and make :

We choose digits 2 and 0. Now, numbers are :
(a) 20000 (b) 200000 (c) 2000000

5. Change the position of the digits, if necessary, to get the smallest 5-digit number :

(a) 12478 (b) 50789 (c) 50089

6. Write the predecessor and successor of the following numbers :

	Predecessor	Number	Successor
(a)	(729400 – 1 =)	729399	729400
	(729400 + 1 =)	729401	
(b)	(680199 – 1 =)	680198	680199
	(680199 + 1 =)	680200	
(c)	(205690 – 1 =)	205689	205690
	(205690 + 1 =)	205691	
(d)	(789999 – 1 =)	789998	789999
	(789999 + 1 =)	790000	

7. (a) Successor of the greatest 6-digit number
= 999999 + 1 = 1000000 Answer
(b) Predecessor of the smallest 5-digit number
= 10000 – 1 = 9999 Answer

Exercise 1.5

1. Write the number in the Indian place value chart and also write the number- name :

Number	Number in Indian Place Value Chart							Number-Name
	M	TL	TTh	Th	H	T	O	
(a) 608752		6	0	8	7	5	2	Six lakh eight thousand seven hundred fifty-two.
(b) 309764		3	0	9	7	6	4	Three lakh nine thousand seven hundred sixty-four.
(c) 895409		8	9	5	4	0	9	Eight lakh ninety-five thousand four hundred nine.
(d) 3245768	3	2	4	5	7	6	8	Thirty-two lakh forty-five thousand seven hundred sixty-eight.
(e) 5670894	5	6	7	0	8	9	4	Fifty-six lakh seventy thousand eight hundred ninety-four.

2. Write the number in the International place value chart and also write the number-name :

Number	Number International Place Value							Number-name
	M	TL	TTh	Th	H	T	O	
(a) 5742561	5	7	4	2	5	6	1	Five million seven hundred forty-two thousand five hundred sixty-one.
(b) 708546		7	0	8	5	4	6	Seven hundred eight thousand five hundred forty-six.
(c) 307945		3	0	9	7	4	5	Three hundred seven thousand nine hundred forty-five.

(d)	6174289	6	1	7	4	2	8	9	Six million one hundred seventy- four thousand two hundred eighty-nine.
(e)	8928704	8	9	2	8	7	0	4	Eight million nine hundred twenty-eight thousand seven hundred four.

3. Draw the Indian and International place value charts and write each of the following numbers in both the charts :

Numbers in Indian Place Value chart :

Number Indian Place Value chart

	Number	Lakh		Thousands		Ones		
		TL	L	THH	TH	H	T	O
(a)	75 4961		7	5	4	9	6	1
(b)	384092		3	8	4	0	9	2
(c)	618290		6	1	8	2	9	0
(d)	3450892	3	4	5	0	8	9	2
(e)	7183542	7	1	8	3	5	4	2
(f)	3654709	3	6	5	4	7	0	9
(g)	2809658	2	8	0	9	6	5	8
(h)	7184965	7	1	8	4	9	6	5

Numbers in International Place value chart :

Number International Place Value chart

	Number	Million			Thousands			Ones		
		HM	TM	M	HTM	TTH	TH	H	T	O
(a)	754961				7	5	4	9	6	1
(b)	384092				3	8	4	0	9	2
(c)	618290				6	1	8	2	9	0
(d)	3450892			3	4	5	0	8	9	2
(e)	7183542			7	1	8	3	5	4	2
(f)	3654709			3	6	5	4	7	0	9
(g)	2809658			2	8	0	9	6	5	8
(h)	7184965			7	1	8	4	9	6	5

4. Using the International place value chart, write the numerals for each of the following number-names, separating the periods with commas :

(a) 204,601 (b) 407,812 (c) 1,204,101
(d) 5,117,052 (e) 7,000,407

Exercise 1.6

1. Round off the following numbers to the nearest 10 :

(a) 80 (b) 140 (c) 4250 (d) 76950 (e) 80480

2. Round off the following numbers to the nearest 100 :

(a) 27700 (b) 38400 (c) 962500 (d) 254700 (e) 8654300

3. Round off the following numbers to the nearest 1000 :

(a) 55000 (b) 708000 (c) 348000 (d) 620000 (e) 857000

4. Some numbers cannot be rounded off as in numbers with facts and time. Write 'Yes' or 'No' :

(a) No (b) No (c) Yes

Revision

1. Write the period, place, place value and face value of the underlined digits :

(a) In 76509, for digit 5 → Period : ones, Place : Hundred, Place value : 500, Face value : 5.
(b) In 32476, for digit 6 → Period : Ones, Place : Ones, Place value : 6 × 1 → 6, Face value : 6.
(c) In 847296, for digit 8 → Period : Lakh, Place : Lakh, Place value : 8 × 100000 → 8,00,000, face value : 8.
(d) In 765894, for digit 6 → Period : Thousands, Place : Ten thousands, Place value : 6 × 10000 → 60,000 Face value : 6.
(e) In 2478096, for digit 8 → Period : Thousands, Place : Thousands, Place value → 8 × 1000 = 8000, Face value : 8.

2. Write the following numbers in the expanded form :

(a) 37465 = 30000 + 7000 + 400 + 60 + 5
(b) 123570 = 100000 + 20000 + 3000 + 500 + 70
(c) 504678 = 500000 + 4000 + 600 + 70 + 8
(d) 700290 = 700000 + 200 + 90
(e) 632807 = 600000 + 30000 + 2000 + 800 + 7

3. Write the following numbers in the standard form :

(a) 63275 (b) 10869 (c) 43980 (d) 207463

4. Write the number-names for the following in the Indian system of numeration :

(a) 657842 = Six lakh fifty-seven thousand eight hundred forty-two.
(b) 268308 = Two lakh sixty-eight thousand three hundred eight.
(c) 197680 = One lakh ninety-seven thousand six hundred eighty.
(d) 3248764 = Thirty-two lakh forty-eight thousand seven hundred sixty-four.
(e) Ten lakh twenty-seven thousand six hundred fifty-seven.

5. (a) Largest 5-digit number = 99999
(b) Smallest 6-digit number = 100000
(c) Put >, < or = sign in the boxes :
(i) 75496 < 78280 (ii) 80590 < 80950
(iii) 38764 – 1 = 38762 + 1
(Since 38764 – 1 = 38763 and 387662 + 1 38763

6. Write the number-names for the following in the International system of numeration :

(a) 472368 → Four hundred seventy-two thousand three hundred sixty-eight.
(b) 709786 → Seven hundred nine thousand seven hundred eighty-six.
(c) 869547 → Eight hundred sixty-nine thousand five hundred forty-seven.
(d) 2890745 → Two million eight hundred ninety thousand seven hundred forty-five.
(e) 9726854 → Nine million seven hundred twenty-six thousand eight hundred fifty-four.

7. Make the largest and smallest numbers with the following digits :

(a) 2, 6, 0, 4, 9, 5 → largest number = 965420,
Smallest number = 204569.

(b) 3, 8, 7, 9, 0, 6 → largest number = 987630,
Smallest number = 306789

8. Round off each of the following numbers to the nearest 10, 100 and 1000 :

(a) 75218→ nearest10=75220,Nearest100 = 75200, Nearest1000
= 75000.

(b) 85762→ Nearest 10 = 85760, Nearest 100 = 85800, Nearest1000 = 86000.

(c) 34629→Nearest 10 = 34630, Nearest 100 = 34600,Nearest1000= 35000.

(d) 8475892→Nearest10=8475890,Nearest1008475900, Nearest 1000 = 8476000

2 Roman Number

Exercise 2.1

1. Write the number shown by the Roman numerals :

(a) I = 1, V = 5, X = 10, L = 50, C = 100, D = 500, M = 1000.

(b) II = 2, III = 3, XX = 20, XXX = 30, CC = 200. CD = 400, DC = 600.

(c) IV = 4, IX = 9, XIV = 14, XIX = 19, XXIV = 24, XXV = 25, XV = 15.

(d) VI = 6, VII = 7, VIII = 8, XXXII = 32, XII = 12, XIII = 13, XVI = 16, XXVII = 27.

2. Write using Roman numerals :

(a) 4 = IV , 5 = V, 2 = II, 3 = III, 1 = I, 11 = XI, 12 = XII, 16 = XVI, 14, XIV, 17 = XVII.

(b) 8 = VIII, 6 = VI, 9 = IX, 15 = XV, 19, XIX, 20 = XX, 13 = XIII, 7 = VII, 18 = XVIII, 21 = XXI.

3. Write 1 to 20 suing Roman numerals :

I II III IV V VI VII VIII IX X XI XII XIII XIV XV XVI XVII XVIII XIX XX

4. Write 21 to 40 using roman numerals :

XXI	XXII	XXIII	XXIV	XXV
XXVI	XXVII	XXVII	XXIX	XXX
XXXI	XXXII	XXXIII	XXXIV	XXXV
XXXVI	XXXVII	XXXVII	XXXIX	XL.

3 Addition

Exercise 3.1

1. Add each of the following :

(a)

TTH	TH	H	T	O
7	7	1	5	6
+ 2	2	6	4	2
9	9	7	9	8

(b)

TTH	TH	H	T	O
5	4	2	1	8
+ 1	3	5	6	1
6	7	7	7	9

(c)

TTH	TH	H	T	O
6	8	0	6	0
+ 3	1	5	2	9
9	9	5	8	9

(d)

TTH	TH	H	T	O
4	2	3	6	7
+ 5	3	6	1	2
9	5	9	7	9

2. Find the sum :

(a)

TTH	TH	H	T	O
◯	①	①	①	
3	5	6	8	5
+ 4	1	4	7	5
7	7	1	6	0

(b)

TTH	TH	H	T	O
◯	①	◯	①	
6	3	4	3	9
+ 2	3	8	4	2
8	7	2	8	1

(c)

TTH	TH	H	T	O
◯	①	①	①	
4	6	3	1	6
+ 3	1	7	9	5
7	8	1	1	1

(d)

TTH	TH	H	T	O
◯	①	①	①	
6	4	4	8	1
+ 3	2	7	2	9
9	7	2	1	0

3. Add the following :

(a)

L	TTH	TH	H	T	O
◯	①	◯	◯	②	
4	2	4	2	1	7
+ 1	3	9	2	1	5
	4	0	2	5	8
6	0	3	6	9	0

(b)

L	TTH	TH	H	T	O
①	②	②	◯	①	
3	2	9	8	1	8
+ 2	8	5	3	0	0
1	0	6	9	4	6
7	2	2	0	6	4

(c)

L	TTH	TH	H	T	O
◯	①	◯	◯	②	
4	5	8	2	1	7
+ 5	1	6	2	1	5
	2	4	2	5	8
9	9	8	6	9	0

(d)

L	TTH	TH	H	T	O
①	②	①	①	①	
2	5	6	4	2	7
+ 1	0	9	2	8	5
	4	5	3	0	0
4	1	1	0	1	2

4. Write each of the following in columns and add :

(a)

◯◯◯◯
7 2 3 1 8
+ 2 7 2 5 0
9 9 5 6 8

(b)

◯①①①
5 1 6 4 2
+ 5 3 6 8
5 7 0 1 0

(c)

◯◯①①
7 5 6 8 5
+ 2 3 2 6 7
9 8 9 5 2

(d)

◯◯①◯
8 4 4 7 3
+ 2 9 4 4
8 7 4 1 7

(e)

◯①①①
1 3 6 9 4
+ 3 7 4 8
1 7 4 4 2

(f)

◯◯①①①
2 5 6 8 6 8
+ 3 4 1 2 4 5
5 9 8 1 1 3

(g)

◯◯◯①①
3 5 2 2 4 8
+ 3 7 1 7 3
3 8 9 4 2 1

(h)

①◯◯◯①
2 4 1 0 3 8
+ 4 5 3 9 2
3 2 1 2 1
3 1 8 5 5 1

(i)

①◯①①①
6 9 4 7 1 8
+ 2 1 8 9 5
+ 0 1 3 6 4
7 1 7 9 7 7

(j)

①◯①②
4 5 3 5 8
+ 1 2 3 3 3
+ 1 9 2 9 9
7 6 9 9 0

5. Largest 5-digit number = 9 9 9 9 9
Smallest 4-digit number = + 1 0 0 0
Sum of both numbers = 1 0 0 9 9 9

6. **According to question, we have to add 15 thousands, 17 hundreds and 18 tens by regrouping.**
15 thousands = 1 ten thousands + 5 thousands
= 10,000 + 5,000
17 hundreds = 1 thousands + 7 hundreds
= 1000 + 700
18 Tens = 10 tens + 8 tens
= 1 hundred + 8 tens
= 100 + 80
Now, by adding the three numbers, 10,000 + 5000 + 1,000 + 700 + 100 + 80
= 10,000 + 6,000 + 800 + 80 = 16,880

7. **Add the following numbers :**

(a) 1, 0 4, 0 0 2
+ 5 8, 2 0 1
1, 6 2, 2 0 3

(b) 7 1, 0 0 4
+ 1, 0 0, 7 0 0
+ 2, 6 1, 4 0 9
4, 3 3, 1 1 3

Exercise 3.2

1. **Add the two number given in parts (i) and (ii) of each sum and compare the total :**

(a) (i) 7 4 2 7 4 1
+ 6 4 8 1 5
8 0 7 5 5 6

(ii) 6 4 8 1 5
+ 7 4 2 7 4 1
8 0 7 5 5 6

comparing the total both are equal.

(b) (i) 5 8 1 6 7 1
+ 7 3 2 3 9 8
1 3 1 4 0 6 9

(ii) 7 3 2 3 9 8
+ 5 8 1 6 7 1
1 3 1 4 0 6 9

comparing the total, both are equal.

(c) (i) 2 8 4 5 6 3
+ 3 4 2 0 8 4
6 2 6 6 4 7

(ii) 3 4 2 0 8 4
+ 2 8 4 5 6 3
6 2 6 6 4 7

2. **Add the three number given in parts (i), (ii), (iii) and (iv) of each sum and compare the total :**

(a) (i) 3 1 2 4 4
+ 2 3 4 1 9
+ 4 1 6 9 5
9 6 3 5 8

(ii) 3 1 2 4 4
+ 4 1 6 9 5
+ 2 3 4 1 9
9 6 3 5 8

(iii) 2 3 4 1 9
+ 4 1 6 9 5
+ 3 1 2 4 4
9 6 3 5 8

(iv) 3 1 6 9 5
+ 4 1 2 4 4
+ 2 3 4 1 9
9 6 3 5 8

Comparing the total, all are same.

(b) (i) 5 3 2 0 6
+ 2 4 7 1 4
+ 6 6 9 2
8 4 6 1 2

(ii) 5 3 2 0 6
+ 6 6 9 2
+ 2 4 7 1 4
8 4 6 1 2

(iii) 2 4 7 1 4
+ 5 3 2 0 6
+ 6 6 9 2
8 4 6 1 2

(iv) 6 6 9 2
+ 5 3 2 0 6
+ 2 4 7 1 4
8 4 6 1 2

Comparing the total, all are same.

3. **Fill in the blanks :**
(a) 0, (b) 3381, (c) 17231 (d) 3715 (e) 68313.

4. **Write the sum :**
(a) 63200 (b) 65420 (c) 41189
(d) 97803 (e) 71370 (f) 87238
(g) 268137 (h) 929847

Exercise 3.3

Solve the following word problems :

1. People educated up to the school level = 2, 5, 6 7 2
People educated up to the college level = + 1, 5, 2 5 6
Total = 4, 0, 9 2 8

So, the total number of educate people in that village is 40,928. Answer

2. Number of cars = 5, 2 6, 1 1 2
Number of trucks = + 2 0, 1 9 5
Total vehicles = 5, 4 6, 3 0 7

So, the total number of vehicles on the road is 5,46,307 Answer

3. Students passed with distinction = 5 2781
Students passed with percentage more than 60% = 7 5, 2 0 0
Students passed with 40% mark = + 2 5, 0 0 0
Total passed students 1, 5 2, 9 8 1

So, the total number of students who passed the exam is 1,52,981 Answer

4. My dad bought
A fridge = 1 9, 2 9 7
An AC = 3 6, 2 8 1
A sofa set = 4 6, 0 0 0
A dining table = + 5 9, 0 0 0
Total amount = 1, 6 0, 5 7 8

Thus, the total amount of money my dad spent is ` 1,60,578.

5. Letter sent from Mumbai to Delhi = 2 1, 3 7 1
Letters sent from Delhi to Mumbai = + 1 8, 9 3 6
Total letters = 4 0, 3 0 7

Thus, 40,307 letters are exchanged between Mumbai and Delhi everyday.

6. In number 7,63,543,
The place value of 7 = 7 × 1,00,000 = 7, 0 0, 0 0 0
The place value of 8 = 5 × 100 = + 5 0 0
Sum of both place values = 7, 0 0, 5 0 0

Thus, the sum of the place value of 7 and 5 in 7,63,543 is 7,00,500.

Exercise 3.4

Frame a word problems for each of the following :

1. Kesar got 730 marks in Hindi and 147 marks for Maths. Tell his total mark.
2. Mahi got ` 839 from her mother and ` 1,678 from her father what money she has now totally?
3. A fruit seller has 4,037 mangoes and 1,096 bananas. How many fruit has in all?
4. In a co-education school, there were 3,216 boys and 5,409 girls. How many students were there in school?
5. A shopkeeper has ` 51,092 in his bank account. He deposited ` 4,059 later on. Now, how much money he has in bank account?

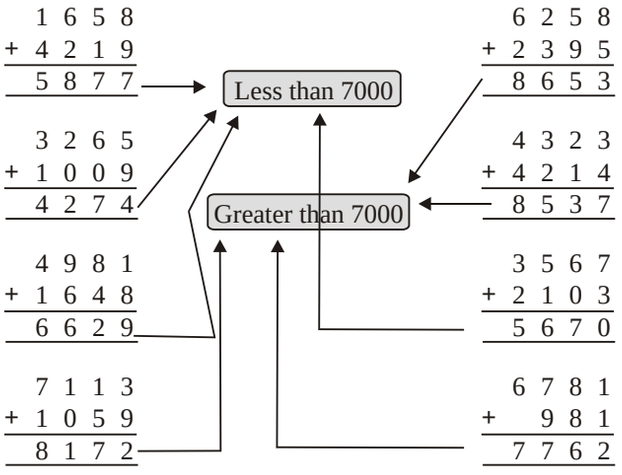
6. Mr John purchased an old car for ` 87,131 and expend ` 8,393 for its repair. Tell the total cost of car for Mr John.

Exercise 3.5

1. Complete the table by writing the estimated answer and then find the actual sum :

Sl. No.	Add	Rounding of number up to 10000	Estimated sum	Actual sum
(a)	8135 + 1026	8000 + 1000	9000	9161
(b)	5321 + 2847	5000 + 3000	8000	8168
(c)	3035 + 1889	3000 + 2000	5000	4924
(d)	15225 + 23919	15000 + 24000	39000	39144
(e)	37815 + 31616	38000 + 32000	70000	69431
(f)	13814 + 27565	14000 + 28000	42000	41379

2. Join the problems to the estimated sum given in the centre :



3. Do yourself.

Revision

1. Write each of the following in columns and add :

(a) 24569 + 51830 = 76399

(b) 72363 + 24556 = 96919

(c) 83081 + 65639 = 148720

(d) 325343 + 452648 = 777991

(e) 46236 + 32481 7 = 371053

(f) 264263 + 54575 = 318838

2. Add the numbers in (i) and (ii) of each and compare the sums :

(a) (i) 43712 + 54560 = 98272

(ii) 54560 + 43712 = 98272

Comparing the sums , both are equal.

(b) (i) 71891 + 36320 = 108211

(ii) 36320 + 71891 = 108211

compare the sums, both are equal.

3. Find the sum of the following :

(a) (i) 56781 (ii) 56782 (iii) 56791 (iv) 56881

(b) (i) 643547 (ii) 643556 (iii) 643646 (iv) 644546

4. Estimated the sum of rounding by the numbers up to 1000s and compare the sum with the actual sum also :

(a) Estimated sum : 4000 + 4000 = 8000 Actual sum : 3571 + 4385 = 7956

The actual sum is 7956 which is close to the estimated sum 8000.

(b) Estimated sum : 6000 + 2000 = 8000 Actual sum : 5813 + 1768 = 7581

The actual sum is 7581 which is not close to the estimated sum 8000.

(c) Estimated sum : 11000 + 22000 = 33000 Actual sum : 11093 + 22365 = 33458

The actual sum os 33458 which is not close to the estimated sum 33000.

(d) Estimated sum : 7000 + 3000 = 10000 Actual sum : 6715 + 3238 = 9953

The actual sum is 9953 which is close to the estimated sum 10000.

(e) Estimated sum : 51000 + 66000 = 117000 Actual sum : 50945 + 66045 = 116990

The actual sum is 116990 which is close to the estimated sum 117000.

(f) Estimated sum : 63000 + 51000 = 114000 Actual sum : 62873 + 51025 = 113898

The actual sum is 113896 which is close to the estimated sum 114000.

5. Solve the following word problems using the information needed :

(a) Cost of the plot = ` 434895

Cost of the building = ` 394800

total cost = ` 829695

So, the total cost of the building is ` 829695. Ans.

(b) Number of red chairs = ` 31250

Number of blue chairs = ` 12850

Total chairs = ` 44100

So, 44100 chairs have been arranged in all.

Exercise 4.1

1. Subtract each of the following :

(a)

TTh	Th	H	T	O
4	8	9	8	2
– 1	3	6	5	0
3	5	3	3	2

(b)

TTh	Th	H	T	O
6	7	4	4	5
– 2	7	2	1	4
4	0	2	3	1

(a)

TTh	Th	H	T	O
4	5	8	1	7
– 1	2	5	0	6
3	3	3	1	1

(b)

TTh	Th	H	T	O
8	6	4	5	7
– 5	4	3	4	6
3	2	1	1	1

2. Find the difference :

(a)

TTh	Th	H	T	O
◯	③	⑫	⑪	⑪
6	4	3	2	1
– 5	2	3	6	4
1	1	9	5	7

(b)

TTh	Th	H	T	O
⑤	⑫	⑬	⑬	◯
6	3	4	3	9
– 2	3	8	4	2
3	9	5	9	7

(c)

L	TTh	Th	H	T	O
①	⑯	◯	◯	⑥	⑮
2	6	9	6	7	5
– 1	8	4	6	6	7
0	8	5	0	0	8

(d)

L	TTh	Th	H	T	O
◯	⑧	⑰	⑫	⑪	⑯
4	9	8	3	2	6
–	5	9	4	8	7
4	3	8	8	3	9

(e)

L	TTh	Th	H	T	O
⑦	⑰	⑤	⑨	⑨	⑩
8	7	6	0	0	0
– 2	9	4	3	6	4
5	8	1	6	3	6

(f)

L	TTh	Th	H	T	O
⑧	⑬	⑥	⑨	⑨	⑩
5	3	7	0	0	0
– 4	7	5	2	2	9
0	6	1	7	7	1

3. Write each of the following in columns and subtract :

(a) 56789 – 24324 = 32465

(b) 67982 – 36530 = 31452

(c) 73865 – 41234 = 32631

(d) 596214 – 283863 = 312351

(e) 634090 – 272918 = 361172

(f) 753124 – 482968 = 270156

4. In each of the following write the bigger number on top and subtract smallest number from it :

According to question.

(a) 97164 – 63245 = 33919

(b) 82848 – 74591 = 08257

(c) 72132 – 51060 = 21072

(d) 285679 – 103864 = 181815

(e) 806000 – 653891 = 152109

(f) 987000 – 394819 = 592181

5. Find the difference between 14275 and 10005.

According to questions, the difference is = 4270 Answer

14275 – 10005 = 04270

6. Find the difference when minuend = 25375 and subtrahend = 10797.

We know, Minuend – Subtrahend = Difference

So, According to questions, the difference is = 14578 Answer

Minuend = 25375

Subtrahend = – 10797

Difference = 14578

7. What number is 2879 is less than 12000?

To find the required number, we will subtract 2879 from 12000.

So, the number 9121 is 2879 less than 12000.

12000 – 2879 = 9121

8. Subtract the sum of 32273 and 45600 from questions.

According to question.

By adding

32273 + 45600 = 77873

By subtracting,

1000000 – 77873 = 22127

So, the difference is 22127. Answer

9. According to questions :

(a) 104,681 – 48,812 = 55,869

(b) 8,12,916 – 6,02,402 = 2,10,514

Exercise 4.2

1. Fill in the blanks :

(a) 56123 (b) 87173 (c) 76422

(d) 97080 (e) 71325 (f) 38124

(g) 93813 (h) 0.

2. For each of the following addition facts, write two subtraction facts :

(a) 84246 – 53245 = 31001

84246 – 31001 = 53245

(b) 82810 – 61125 = 21685

82810 – 61125 = 21685

(c) 36990 – 36845 = 145

36990 – 145 = 36845

(d) 64483 – 23265 = 41218

64483 – 41218 = 23265

(e) 84067 – 31151 = 52916

84067 – 52916 = 31151

(f) 69541 – 26132 = 43409

69541 – 43409 = 26132

(g) 736635 – 413361 = 323274
736635 – 413361 = 323274

(h) 799736 – 298605 = 501131
799736 – 501131 = 298605

Exercise 4.3

1. Solve each of the following :

According to the questions :

(a) By adding

	5	3	4	1	5
+	3	4	6	1	6
	8	8	0	3	1

By subtracting

	8	8	0	3	1
–	2	5	0	1	7
	6	3	0	1	4

Answer

(b) By adding

	6	2	3	4	9
+	3	6	8	1	5
	9	9	1	6	4

By subtracting

	9	9	1	6	4
–	4	3	1	9	4
	5	5	9	7	0

Answer

(c) By adding

	5	8	1	6	5
+	4	3	6	1	6
1	0	1	7	8	1

By subtracting

1	0	1	7	8	1
–	8	3	7	9	4
	1	7	9	8	7

Answer

(d) By adding

	4	7	3	4	6
+	2	3	1	8	0
	7	0	5	2	6

By subtracting

	7	0	5	2	6
–	5	1	0	6	3
	1	9	4	6	3

Answer

(e) By adding

		7	9	0	0	4
+		2	1	0	8	1
	1	0	0	0	8	5

By subtracting

	1	0	0	0	8	5
–		4	3	5	6	1
		5	6	5	2	4

Answer

(f) By adding

	5	4	8	8	4	7
+	1	8	2	1	4	9
	7	3	0	9	9	6

By subtracting

	7	3	0	9	9	6
–	3	5	3	7	1	6
	3	7	7	2	8	0

Answer

(g) By adding

	3	8	3	6	9	2
+	2	5	1	8	4	7
	6	3	5	5	3	9

By subtracting

	6	3	5	5	3	9
–	4	3	2	3	6	5
	2	0	3	1	7	4

Answer

(h) By adding

	7	8	6	1	4	9
+	2	8	2	9	1	6
1	0	6	9	0	6	5

By subtracting

1	0	6	9	0	6	5
–	3	9	5	2	6	4
	6	7	3	8	0	1

Answer

2. Subtract each of following and check the answer by suitable addition :

(a)

TTh	Th	H	T	O
8	6	8	4	1
– 5	3	0	7	4
3	3	7	6	7

TTh	Th	H	T	O
3	3	7	6	7
+ 5	3	0	7	4
8	6	8	4	1

(b)

TTh	Th	H	T	O
6	7	2	0	6
– 5	4	8	9	2
1	2	3	1	4

TTh	Th	H	T	O
1	2	3	1	4
+ 5	4	8	9	2
6	7	2	0	6

(c)

TTh	Th	H	T	O
8	9	0	0	0
– 7	8	8	3	1
1	0	1	6	9

TTh	Th	H	T	O
1	0	1	6	9
+ 7	8	8	3	1
8	9	0	0	0

Exercise 4.4

Solve the following word problems :

1. Cost of car bought by Mr Rakesh = ` 4, 00, 382
Money spent on repairing of the house = + ` 75, 361
Total money spent by Mr Rakesh = ` 4, 75, 743 Ans

Money in bank account of Mr Rakesh = ` 9, 36, 500
Money expend by Mr Rakesh = – ` 4, 75, 743
Balance money = ` 4, 60, 757 Ans

So, ` 4,60,757 is left in Mr Rakesh bank account.

2. By the formula sum of two number – one number sum of two
Number = ` 7, 34, 562
One number = – ` 3, 01, 203
Other number = ` 4, 33, 359 Answer

3. To find the required number, first we will add 1,50,000 and 3,10,200 and than subtract 2,75000 from the sum.

	1,	50,	000		4,	60,	000
+	3,	10,	200	–	2,	75,	000
	4,	60,	200		1,	85,	200

So, the required number is, 1,85200 Answer

4. Candles made for Diwali = 28, 325 candles
Mary gave to her friends = – 12, 197 candles
balance candles = 16, 128 candles
So, 16,128 candles are left with Mary. Answer.

5. Rohit has in his collection = 22, 811 stamps
Foreign stamps in his collection = – 4, 936 stamps
Balance stamps = 17, 875 Answer

6. Car mechanic earns in a month = ` 27, 149
Scooter mechanic earns in a month = – ` 13, 126
Here, ` 27,149 > ` 13,126 = ` 14, 023
By subtracting, we find
That car mechanic earns more and by ` 14,023.

7. The stadium has = ` 25, 000 seats
Seats full of people = – ` 19, 470 seats
Balance seats = ` 5, 530 seats
So, 5,530 seats are vacant. Answer

8. Seema got of sum of 51,830 by adding 51,178 and a number.
So, 51,830 – 51,178 = Required number
So, the required number = 51,830 – 51,178
= 652 Answer

Working :

	51,	830		
–	51,	178		
		652		

Exercise 4.5

Frame word problems for the following subtraction facts :

1. In a school library there are 42,685 books in all, out of which 20,128 books are of English language. How many books are there of the other languages, in the library?
2. In a city, total population is 5,32,695 out of which 1,49,325 are children., Find the total number of men and women in the city.
3. An army officer received ` 6,75,100 on his retirement. He bought a car for ` 2,16,111. How much money he has now?
4. Kushal has ` 57,492 in his bank account.

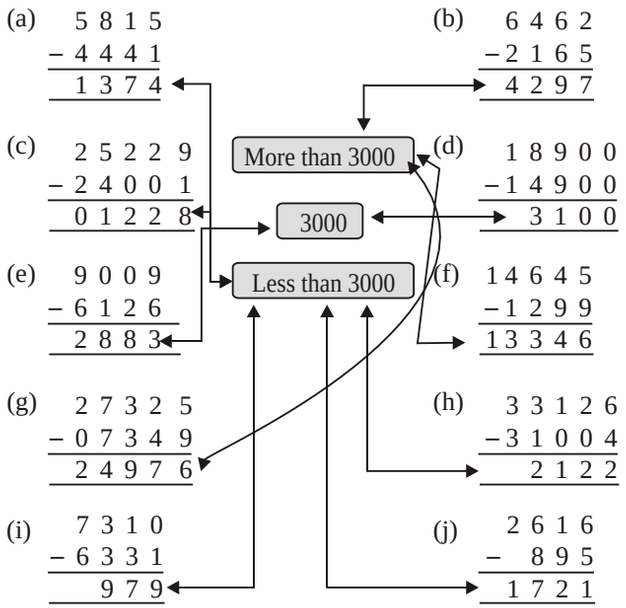
   He withdraws ` 12600 from his account to purchase a TV set. Now, what is the balance money in his account?
5. What number should be added to 11,997 to get 19,947.

Exercise 4.6

1. **Estimate the difference by rounding off each number to the nearest thousands and find the actual difference for each of the following. Complete the table :**

Sl. No.	Sum	Rounding of numbers up to 10000	Estimated difference	Actual difference	Is the estimation close? (Yes/No)
(a)	8235 – 4185	8000 – 4000	4000	4050	Yes
(b)	9947 – 4862	10000 – 5000	5000	5085	Yes
(c)	14025 – 12890	14000 – 13000	1000	1135	No
(d)	45135 – 23243	45000 – 23000	22000	21892	Yes
(e)	57416 – 34394	57000 – 34000	23000	23022	Yes
(f)	84973 – 29304	85000 – 29000	56000	55669	No

2. **Join each problems to the correct estimated answer given at the centre in the box :**



Revision

1. **Write each of the following in columns and subtracts :**

(a)
$$\begin{array}{r} 8000 \\ -\ 6529 \\ \hline 1471 \end{array}$$

(b)
$$\begin{array}{r} 7130 \\ -\ 3845 \\ \hline 3285 \end{array}$$

(c)
$$\begin{array}{r} 31230 \\ -\ 21088 \\ \hline 10142 \end{array}$$

(d)
$$\begin{array}{r} 91265 \\ -\ 68949 \\ \hline 22316 \end{array}$$

2. **For each of the following addition facts, write two subtracts facts :**

(a) 7448 – 6312 = 1136
    7448 – 1136 = 6312
(b) 8297 – 1065 = 7232
    8297 – 7232 = 1065
(c) 38492 – 23323 = 15169
    38492 – 15169 = 23323
(d) 77429 – 34164 = 43265
    77429 – 43265 = 34164

3. **Solve the following :**

(a) By adding
$$\begin{array}{r} 2319 \\ +\ 5368 \\ \hline 7687 \end{array}$$
By subtracting
$$\begin{array}{r} 7687 \\ -\ 3479 \\ \hline 4208 \end{array}$$ Answer

(b) By adding
$$\begin{array}{r} 1865 \\ +\ 2973 \\ \hline 4838 \end{array}$$
By subtracting
$$\begin{array}{r} 4838 \\ -\ 946 \\ \hline 3892 \end{array}$$ Answer

(c) By adding
$$\begin{array}{r} 58641 \\ +\ 24986 \\ \hline 83627 \end{array}$$
By subtracting
$$\begin{array}{r} 83627 \\ -\ 16329 \\ \hline 67298 \end{array}$$ Answer

(d) By adding
$$\begin{array}{r} 27989 \\ +\ 14674 \\ \hline 42663 \end{array}$$
By subtracting
$$\begin{array}{r} 42663 \\ -\ 11008 \\ \hline 31655 \end{array}$$ Answer

4. **Subtracts each of the following and check the answer by suitable adding :**

(a)
$$\begin{array}{r} \text{Th H T O} \\ 8000 \\ -\ 6325 \\ \hline 1675 \end{array}$$
$$\begin{array}{r} \text{Th H T O} \\ 1675 \\ +\ 6325 \\ \hline 8000 \end{array}$$

(b)
$$\begin{array}{r} \text{TTh Th H T O} \\ 29121 \\ -\ 16874 \\ \hline 13247 \end{array}$$
$$\begin{array}{r} \text{TTh Th H T O} \\ 13247 \\ +\ 16874 \\ \hline 29121 \end{array}$$

5. Solve the following word problems :

(a) Number of total passengers in the train = 2686
    Number of children out of total passengers = − 1268
    Number of adults in the train = 1418
    So, there were 1418 adults in the train. Answers

(b) Total flowers used to make rangoli = 2789
Number of red flowers used in rangoli = − 1956
Number of white flowers = 833 Ans
So, there are 833 white flowers in the rangoli.

6. Solve the following :

(a)
$$\begin{array}{r} 10000 \\ -\ 5937 \\ \hline 4063 \end{array}$$
So, 4063 should be added to 5937 to make it 10000. Answer

(b)
$$\begin{array}{r} 4813 \\ +\ 3247 \\ \hline 8060 \end{array}$$
So we should subtract 4813 from 8060 to get 3247 as the difference. Answer

(checking : 8060 – 4813 = 3247; so, answer is correct.)

5 Multiplication

Exercise 5.1

1. Write the multiplication fact :

(a) 6 groups of 2 butterflies
Multiplication fact : 6 × 2 = 12

(b) 3 groups of 2 birds :
Multiplication fact : 3 × 2 = 6

2. An aquarium has 6 fish. Write the multiplication fact to find the number of fish in 7 aquariums.
Number of fish in 1 aquarium = 6
Number of fish in 7 aquarium = 6 × 7 = 42 (Multi. fact)
So, there are 42 fish in 7 aquariums.

3. Fill in the blanks using the multiplication table :

(a)

Numbers of cars	1	2	3	4	5	6	7	8	9	10
Number of wheels	4	8	12	16	20	24	28	32	36	40

(b)

Number of children	1	2	3	4	5	6	7	8	9	10
Number of hands	2	4	6	8	10	12	14	16	18	20

4. Write the product using multiplication table :

(a) 4 × 3 = 12 (b) 6 × 7 = 42
(c) 8 × 5 = 40 (d) 9 × 9 = 81

Exercise 5.2

1. Multiply using column method :

(a) 2463 × 3 =
①①○
$$\begin{array}{r} 2463 \\ \times\ \ \ 3 \\ \hline 7389 \end{array}$$
Ans.

(b) 4287 × 2 =
○①①
$$\begin{array}{r} 4287 \\ \times\ \ \ 2 \\ \hline 8574 \end{array}$$
Ans.

(c) 1095 × 7 =
○⑥③
$$\begin{array}{r} 1095 \\ \times\ \ \ 7 \\ \hline 7665 \end{array}$$
Ans.

(d) 5403 × 6 =
②○①
$$\begin{array}{r} 5403 \\ \times\ \ \ 6 \\ \hline 32418 \end{array}$$
Ans.

(e) 8932 × 4 =
③①○
$$\begin{array}{r} 8932 \\ \times\ \ \ 4 \\ \hline 35728 \end{array}$$
Ans.

(f) 3761 × 5 =
③③○
$$\begin{array}{r} 3761 \\ \times\ \ \ 5 \\ \hline 18805 \end{array}$$
Ans.

2. Multiply using expansion method :

(a) 3402 × 2 = (3000 + 400 + 0 + 2) × 2
= (3000 × 2) + (400 × 2) + (0 × 2) + (2 × 2)
= 6000 + 800 + 0 + 4
= 6804 Answer

(b) 6947 × 4 = (6000 + 900 + 40 + 7) × 4
= (6000 × 4) + (900 × 4) + (40 × 4) + (7 × 4)
= 24000 + 3600 + 160 + 28
= 27788 Answer

(c) 1234 × 8 = (1000 + 200 + 30 + 4) × 8
= (1000 ×8) + (200 × 8) + (30 × 8) + (4 × 8)
= 8000 + 1600 + 240 + 32
= 9872 Answer

(d) 7954 × 3 = (7000 + 900 + 50 + 4) × 3
= (7000 × 3) + (900 × 3) + (50 × 3) + (4 × 3)
= 21000 + 2700 + 150 + 12
= 23862 Answer

(e) 9013 × 5 = (9000 + 0 + 10 + 3) × 5
= (9000 × 5) + (0 × 5) + (10 × 5) + (3 × 5)
= 45000 + 0 + 50 + 15
= 45065 Answer

(f) 8864 × 7 = (8000 + 800 + 60 + 4) × 7
= (8000 × 7) + (800 × 7) + (60 × 7) + (4 × 7)
= 56000 + 5600 + 420 + 28
= 62048 Answer

Exercise 5.3

Multiply :

(a) 24 × 10 = 240
= 68 × 4
= 272

(b) 68 × 40
$$\begin{array}{r} 68 \\ \times\ \ 4 \\ \hline 272 \end{array}$$
then 68 × 40 = 2720

(c) 73 × 30 → 73 × 3 = 219
then 73 × 30 = 2190
$$\begin{array}{r} 73 \\ \times\ \ 3 \\ \hline 219 \end{array}$$

(d) 196 × 60 → 196 × 6 = 1176
then 196 × 60 = 11760
$$\begin{array}{r} 196 \\ \times\ \ 6 \\ \hline 1176 \end{array}$$

(e) 12 × 100 = 1200

(f) 73 × 600 → 73 × 6 = 438
then 73 × 600 = 43800
$$\begin{array}{r} 73 \\ \times\ \ 6 \\ \hline 438 \end{array}$$

(g) 67 × 800 → 67 × 8 = 536
then 67 × 800 = 53600
$$\begin{array}{r} 67 \\ \times 8 \\ \hline 536 \end{array}$$

(h) 34 × 500 → 34 × 5 = 170
then 34 × 500 = 17000
$$\begin{array}{r} 34 \\ \times 5 \\ \hline 170 \end{array}$$

(i) $37 \times 100 \rightarrow 3700$

(j) $92 \times 2000 \rightarrow 92 \times 2 = 184$
then $92 \times 2000 = 184000$

$$\begin{array}{r} 92 \\ \times\ 2 \\ \hline 184 \end{array}$$

(k) $84 \times 5000 \rightarrow 84 \times 5 = 420$
then $84 \times 5000 = 420000$

$$\begin{array}{r} 84 \\ \times\ 5 \\ \hline 420 \end{array}$$

(l) $52 \times 8000 \rightarrow 52 \times 8 = 416$
then $52 \times 8000 = 416000$

$$\begin{array}{r} 52 \\ \times\ 8 \\ \hline 410 \end{array}$$

Exercise 5.4

1. Multiply :

(a) 74×11

$$\begin{array}{r} 74 \\ \times 11 \\ \hline 74 \\ +740 \\ \hline 814 \end{array}$$

$74 \times 11 = 814$

(b) 40×18

$$\begin{array}{r} 40 \\ \times 18 \\ \hline 320 \\ +400 \\ \hline 720 \end{array}$$

$40 \times 18 = 720$

(c) 258×31

$$\begin{array}{r} 258 \\ \times 31 \\ \hline 258 \\ +7740 \\ \hline 7998 \end{array}$$

$258 \times 31 = 7998$

(d) 712×23

$$\begin{array}{r} 712 \\ \times 23 \\ \hline 2136 \\ +14240 \\ \hline 16376 \end{array}$$

$712 \times 23 = 16376$

(e) 262×77

$$\begin{array}{r} 262 \\ \times 77 \\ \hline 1834 \\ +18340 \\ \hline 20174 \end{array}$$

$262 \times 77 = 20174$

(f) 978×95

$$\begin{array}{r} 978 \\ \times 95 \\ \hline 4890 \\ +88020 \\ \hline 92910 \end{array}$$

$978 \times 95 = 92910$

(g) 1127×29

$$\begin{array}{r} 1127 \\ \times 29 \\ \hline 10143 \\ +22540 \\ \hline 32683 \end{array}$$

$1127 \times 29 = 32683$

(h) 2034×47

$$\begin{array}{r} 2034 \\ \times 47 \\ \hline 14238 \\ +81360 \\ \hline 95598 \end{array}$$

$2034 \times 47 = 95598$

(i) 1234×56

$$\begin{array}{r} 1234 \\ \times\ 56 \\ \hline 7404 \\ +61700 \\ \hline 69104 \end{array}$$

$1234 \times 56 = 69104$

(j) 234×234

$$\begin{array}{r} 234 \\ \times 234 \\ \hline 936 \\ 7020 \\ +46800 \\ \hline 54756 \end{array}$$

$234 \times 234 = 54756$

(k) 409×203

$$\begin{array}{r} 409 \\ \times 203 \\ \hline 1227 \\ 0000 \\ +81800 \\ \hline 83027 \end{array}$$

$409 \times 203 = 83027$

(l) 222×222

$$\begin{array}{r} 222 \\ \times 222 \\ \hline 444 \\ 4440 \\ +44400 \\ \hline 49284 \end{array}$$

$222 \times 222 = 49284$

2. Fill in the boxes :

(a)
$$\begin{array}{r} 97 \\ \times 42 \\ \hline 194 \\ +3880 \\ \hline 4074 \end{array}$$

(b)
$$\begin{array}{r} 423 \\ \times\ 65 \\ \hline 2115 \\ +25380 \\ \hline 27495 \end{array}$$

(c)
$$\begin{array}{r} 3258 \\ \times\ 23 \\ \hline 9774 \\ +65160 \\ \hline 74934 \end{array}$$

(d)
$$\begin{array}{r} 601 \\ \times 163 \\ \hline 1803 \\ 36060 \\ +60100 \\ \hline 97963 \end{array}$$

Exercise 5.5

Solve using lattice method :

(a) 142×15

	1	4	2	
	0/1	0/4	0/2	1
4	0/5	2/0	1/0	5
	1	3	0	

$142 \times 15 = 2130$

(b) 167×28

	1	6	7	
	0/2	1/2	1/4	2
4	0/8	4/8	5/6	8
	7	7	6	

$167 \times 28 = 4676$

(c) 625×12

	6	2	5	
	0/6	0/2	0/5	1
7	1/2	0/4	1/0	2
	5	0	0	

$625 \times 12 = 7500$

(d) 314×29

	3	1	4	
	0/6	0/2	0/8	2
9	2/7	0/9	3/6	9
	1	0	6	

$314 \times 29 = 9106$

(e) 179×53

	1	7	9	
	0/5	3/5	4/5	51
9	0/3	2/1	2/7	3
	4	8	7	

$79 \times 53 = 9487$

(f) 109×79

	1	7	9	
	0/7	0/0	6/3	7
8	0/9	0/0	8/1	9
	6	1	1	

$109 \times 79 = 8611$

Exercise 5.6

1. The number of floors in building = 46
The number of flats in each floor = 9
Total number of flats in building = 46 × 9
= 414

```
  46
 × 9
 414
```

So, there are 414 flats in the building.

2. Trips of bus everyday = 7
People travel in a trip = 75
The number of people travel everyday = 7 × 75
= 525

```
  75
 × 7
 525
```

So, 525 people travel in the bus every day.

3. the number of pencils in a box = 12
The number of boxes = 83
The total number of pencils = 83 × 12
= 996
So, there are 996 pencils in 83 such boxes.

```
  83
 ×12
 166
 830
 996
```

4. The number of reams = 43
The number of sheets in a ream = 500
The total number of sheets in 43 reams = 43 × 500
So, there are 21500 sheets in 43 reams.

```
  500
 × 43
 1520
+20000
 21500
```

5. The length of cloth = 47 metres
The cost of 1 metre cloth = 356
The total cost of cloth = (356 × 47)
= 16,732
So, the cost of 47 metre cloth is = 16,732

```
  356
 × 47
 2492
+14240
 16732
```

6. The notes in the bag = 289
The value of one note = 50
Total money in the bag = (50 × 289)
= 14,450
So, there are = 14,450 in the bag.

```
  289
 × 50
  000
+14450
 14450
```

7. The number of days in the month of July = 31
We know,
The number of hours in the month of July = 31 × 24
= 744 hours
So, there are 744 hour in the month of July.

```
  31
 ×24
 124
+620
 744
```

8. The number of classes in the school = 10
The number of sections in each class = 4
The total number of sections in the school = 10 × 4 = 40
The total number of students in the school = 50 × 40 = 2000
So, the total number of students in classes 1 to 10 is 2000.

9. We know,
There are 7 days in a week.
And, the number of hours in a day = 24
So, The number of hours in a week = 24 × 7
= 168

```
  168
 × 60
  000
+10080
 10080
```

We know, the number of minutes in 1 hour = 60
So, the number of minutes in 168 hours = 168 × 60
= 10080
Thus, there are 10080 minutes in a week.

10. We know, the number of minutes in 1 hour = 60
So, the number of minutes in 6 hours = 60 × 6
= 360
We know, the number of seconds in 1 minute = 60
So, the number of seconds in 360 minutes = 360 × 60
= 21600

```
  360
 × 60
  000
+21600
 21600
```

Thus, there are 21600 seconds in 6 hours.

11. The number of sheets in 1 ream = 500
So, the number of sheets in 7 reams = 500 × 7
= 3500
The photos can be printed on 1 sheet = 5
So, The number of photos can be printed on = 3500 × 5
3500 sheets = 17500
Thus 17500 photos can be printed with 7 reams.

```
 3500
  × 5
17500
```

Exercise 5.7

1. Estimate the product :

(a) 67 × 31
67 is rounded up to 70 and 31 is rounded down to 30.
Thus, extimated product = 70 × 30 = 2100

(b) 245 × 131
245 is rounded down to 200 and 131 is rounded down to 100.
Thus, estimated product = 200 × 100 = 20000

(c) 543 × 76
543 is rounded down to 500 (nearest hundreds) and
76 is rounded up to 80 (nearest tens).
Thus, estimated product = 500 × 80 = 40000

(d) 53 × 88
53 is rounded down to 50 and 88 is rounded up to 90.
Thus estimated product = 50 × 90 = 4500

(e) 116 × 475
116 is rounded down to 100 and 475 is round up to 500.
Thus, estimated product = 100 × 500 = 50000

(f) 777 × 98
777 is rounded up to 800 (nearest hundreds) and
98 is rounded up to 100 (nearest tens).
Thus, estimated product = 800 × 100 = 80000

(g) 123 × 256
123 is rounded down to 100 and 256 is rounded up to 300.
Thus, estimated product = 100 × 300 = 30000

(h) 56 × 78
56 is rounded up to 60 and 78 is rounded up to 80.
Thus, estimated product = 60 × 80 = 4800

2. The number of bangles in 1 box = 47
The number of boxes = 63
So, the number of bangles in all = 47 × 63
47 is rounded up to 50 and 63 is rounded down to 60.
Thus, the estimated number of bangles in all = 50 × 60
= 3000

3. The number of books in 1 shelf = 336
The number of shelves = 172
So, the number of book in 172 shelves = 336 × 172
336 is rounded down to 300 and 172 is rounded up to 200.
Thus, the estimated number of books in all = 300 × 200
= 60000

4. Weight of 1 sack of cement = 189 kg
The number of sacks of cement = 84
So, the weight of 84 sacks of cement = (189 × 84) kg
189 is rounded up to 200 (nearest hundred) and
84 is rounded down to 80 (nearest tens).
Thus, the estimated weight of cement in all = (200 × 80) kg
= 16000 kg

Revision

1. Solve.

(a) 1579×9

$$\begin{array}{r} 1579 \\ \times\ 9 \\ \hline 14211 \end{array}$$

$1579 \times 9 = 14211$

(b) 84×48

$$\begin{array}{r} 84 \\ \times 48 \\ \hline 672 \\ +3360 \\ \hline 4032 \end{array}$$

$84 \times 48 = 4032$

(c) 383×54

$$\begin{array}{r} 383 \\ \times\ 54 \\ \hline 1532 \\ +19150 \\ \hline 20682 \end{array}$$

$383 \times 54 = 20682$

(d) 2483×28

$$\begin{array}{r} 2483 \\ \times\ 28 \\ \hline 19864 \\ +49660 \\ \hline 69524 \end{array}$$

$2483 \times 28 = 69524$

(e) 346×248

$$\begin{array}{r} 346 \\ \times 248 \\ \hline 2768 \\ +13840 \\ \hline 69200 \\ \hline 85808 \end{array}$$

$346 \times 248 = 85808$

(f) 2476×7

$$\begin{array}{r} 2476 \\ \times\ 7 \\ \hline 17332 \end{array}$$

$2476 \times 7 = 17332$

(g) 709×68

$$\begin{array}{r} 709 \\ \times 68 \\ \hline 5672 \\ +42540 \\ \hline 48212 \end{array}$$

$709 \times 68 = 48212$

(h) 206×304

$$\begin{array}{r} 206 \\ \times 304 \\ \hline 824 \\ 0000 \\ +61800 \\ \hline 62624 \end{array}$$

$206 \times 304 = 62624$

2. Multiply using lattice method :

(a) 145×45

	1	4	5	
	0/4	1/6	2/0	4
6	0/5	2/0	2/5	5
	5	2	5	

$145 \times 45 = 6525$

(b) 222×11

	2	2	2	
	0/2	0/6	0/2	1
2	0/2	0/8	0/2	1
	4	4	2	

$222 \times 11 = 2442$

(c) 662×13

	6	6	2	
	0/6	0/6	0/2	1
8	1/8	1/8	0/6	3
	6	0	6	

$662 \times 13 = 8606$

(d) 203×41

	2	0	3	
	0/8	0/0	1/2	4
8	1/2	0/0	0/3	1
	3	2	3	

$203 \times 41 = 8323$

3. The number of children in 1 activity club = 37
The number of clubs = 21
So, the number of children in 21 clubs = 37×21
= 777

Thus, there will be 777 children in 21 clubs.

4. The cost of 1 table = 7654
The number of tables = 9
So, the cost of 9 tables = (7654×9)
= 68,886

$$\begin{array}{r} 7654 \\ \times\ 9 \\ \hline 68886 \end{array}$$

Thus, the total amount Amit will have to pay for the tables is R68,886

5. Time taken to paint 1 hoarding = 306 minutes
The number of hoarding = 24
So, the time that will be taken to paint 24 hoarding = (306×24) minutes
= 7344 minutes

$$\begin{array}{r} 306 \\ \times 24 \\ \hline 1224 \\ +6120 \\ \hline 7344 \end{array}$$

Thus, Ajay will take 7344 minutes to paint 24 hoarding.

6. Water that can be filled in 1 container = 325 litres
The number of containers = 235
So, the water that can be filled in 235 Containers = (325×235) litres
= 76375 litres

$$\begin{array}{r} 325 \\ \times 235 \\ \hline 1625 \\ 9750 \\ +65000 \\ \hline 76375 \end{array}$$

Thus, 76375 litre water can be filled in 235 containers.

7. The number of students = the number of books = 32
Each book contains = 1001 pages
So, the number of pages in 32 books = 1001×32
Thus, there are 32032 pages in all .

$$\begin{array}{r} 1001 \\ \times\ 32 \\ \hline 2002 \\ +30030 \\ \hline 32032 \end{array}$$

6 Division

Page 58 : Complete the following :

1. $803 \div 1 = 803$
2. $794 \div 794 = 1$
3. $2658 \div 0 =$ Not possible
4. $0 \div 991 = 0$
5. $3004 \div 1 = 3004$
6. $4556 \div 4556 = 1$
7. $0 \div 864 = 0$
8. $631 \div 1 = 631$
9. $500 \div 500 = 1$

Exercise 6.1

1. Find the quotient and the remainder :

(a) $60 \div 10 \rightarrow$ Quotient = 6, remainder = 0
(b) $95 \div 10 \rightarrow$ Quotient = 9, remainder = 5
(c) $800 \div 100 \rightarrow$ Quotient = 8, remainder = 0
(d) $7256 \div 100 \rightarrow$ Quotient = 72, remainder = 56
(e) $9800 \div 1000 \rightarrow$ Quotient = 9, remainder = 800
(f) $35625 \div 1000 \rightarrow$ Quotient = 35, remainder = 625
(g) $56943 \div 100 \rightarrow$ Quotient = 569, remainder = 43
(h) $72194 \div 10 \rightarrow$ Quotient = 7219, remainder = 4

2. Fill in the blanks :

(a) $200 \div 10 = 20$ (b) $9400 \div 100 = 94$
(c) $15000 \div 1000 = 15$ (d) $3000 \div 10 = 300$
(e) $10000 \div 100 = 100$ (f) $42000 \div 1000 = 42$
(g) $60000 \div 100 = 600$ (h) $9000 \div 1000 = 9$
(i) $2400 \div 10 = 240$

3. Solve the following problems :

(a) The number of tube-wells = 19600
The number of villages = 100
So, the number of tube-wells installed in each village
= $19600 \div 100$
= 196
Thus, 196 tube-wells were installed per village.

(b) The number of notebooks = 700
The number of children = 70
So, 1 child gets = (700 ÷ 70) notebooks
= 10 notebooks
Thus, each child gets 10 notebooks.

Exercise 6.2

1. Tick (✓) the correct answer :

So, (a) $3968 \div 4$

```
    967
4 ) 3868
  -36
   26
  -24
    28
  -28
     0
```

So, option (a) is correct.

2. Divide to find the quotient and remainder :

(a) $6435 \div 4$

```
   1608
4 ) 6435
  -4
   24
  -24
    035
   -32
     3
```

Quotient = 1608
Remainder = 3

(b) $7018 \div 6$

```
   1169
6 ) 7018
  -6
   10
  -6
    41
  -36
     58
  -54
      4
```

Quotient = 1169
Remainder = 4

(c) $8960 \div 8$

```
   1120
8 ) 8960
  -8
   09
  -8
    16
   -16
    -00
```

Quotient = 1120
Remainder = 0

(d) $1023 \div 9$

```
   113
9 ) 1023
  -9
   12
  -9
    33
   -27
     6
```

Quotient = 113
Remainder = 6

(e) $3721 \div 5$

```
    744
5 ) 3721
  -35
   22
  -20
    21
   -20
     1
```

Quotient = 744
Remainder = 1

(f) $6945 \div 4$

```
   1736
4 ) 6945
  -4
   29
  -28
    14
   -12
     25
   -24
      1
```

Quotient = 1736
Remainder = 1

(g) $8345 \div 7$

```
   1192
7 ) 8345
  -7
   13
  -7
    64
  -63
     15
   -14
      1
```

Quotient = 1192
Remainder = 1

(h) $6395 \div 8$

```
   799
8 ) 6395
  -56
   79
  -72
    75
   -72
     3
```

Quotient = 799
Remainder = 3

3. Find the quotient and remainder and verify your answer :

(Note : Use the following fact to verify the answer :
Dividend = (Quotient × Divisor) + Remainder

(a) $5617 \div 6$

```
   936
6 ) 5617
  -54
   21
  -18
    37
   -36
     1
```

Quotient = 936
Remainder = 1

Verification : $5617 = (936 \times 6) + 1$
$= 5616 + 1$
$= 5617$

Hence, the division is correct.

(b) $6048 \div 8$

$$\begin{array}{r} 756 \\ 8\overline{)6048} \\ -56 \\ \hline 44 \\ -40 \\ \hline 48 \\ -48 \\ \hline 0 \end{array}$$

Quotient = 756
Remainder = 0

Verification : $6048 = (756 \times 8) + 0$
$= 6048 + 0$
$= 6048$

Hence the division is correct.

(c) $9152 \div 7$

$$\begin{array}{r} 1307 \\ 7\overline{)9152} \\ -7 \\ \hline 21 \\ -21 \\ \hline 052 \\ -49 \\ \hline 3 \end{array}$$

Quotient = 1307
Remainder = 3

Verification : $9152 = (1307 \times 7) + 3$
$= 9149 + 3$
$= 9152$

Hence the division is correct.

(d) $8054 \div 9$

$$\begin{array}{r} 894 \\ 9\overline{)8054} \\ -72 \\ \hline 85 \\ -81 \\ \hline 44 \\ -36 \\ \hline 8 \end{array}$$

Quotient = 894
Remainder = 8

Verification :
$8054 = (894 \times 9) + 8$
$= 8046 + 8 = 8054$

Hence the division is correct.

(e) $721 \div 7$

$$\begin{array}{r} 103 \\ 7\overline{)721} \\ -7 \\ \hline 021 \\ -21 \\ \hline 0 \end{array}$$

Quotient = 103
Remainder = 0

Verification : $721 = (103 \times 7) + 0$
$= 721 + 0$
$= 721$

Hence the division is correct.

(f) $4065 \div 8$

$$\begin{array}{r} 508 \\ 8\overline{)4065} \\ -40 \\ \hline 065 \\ -64 \\ \hline 1 \end{array}$$

Quotient = 508
Remainder = 1

Verification : $4065 = (508 \times 8) + 1$
$= 4064 + 1$
$= 4065$

Hence the division is correct.

(g) $8625 \div 6$

$$\begin{array}{r} 1437 \\ 6\overline{)8625} \\ -6 \\ \hline 26 \\ -24 \\ \hline 22 \\ -18 \\ \hline 45 \\ -42 \\ \hline 3 \end{array}$$

Quotient = 1437
Remainder = 3

Verification : $8625 = (1437 \times 6) + 3$
$= 8622 + 3$
$= 8625$

Hence the division is correct.

(h) $7384 \div 5$

$$\begin{array}{r} 1476 \\ 5\overline{)7384} \\ -5 \\ \hline 23 \\ -20 \\ \hline 38 \\ -35 \\ \hline 34 \\ -30 \\ \hline 4 \end{array}$$

Quotient = 1476
Remainder = 4

Verification :
$7384 = (1476 \times 5) + 4$
$= 7380 + 4 = 7384$

Hence the division is correct.

4. The number of banners = 6296
The number of groups = 8
So, the number of banners given to each group = $6296 \div 8$
$= 787$

$$\begin{array}{r} 787 \\ 8\overline{)6296} \\ -56 \\ \hline 69 \\ -64 \\ \hline 56 \\ -56 \\ \hline 0 \end{array}$$

Thus, 787 banners were given to each group.

Exercise 6.3

1. Tick (✓) the correct answer :

By the fact : Divisor = (Dividend – Remainder) ÷ Quotient
$= (7890 - 3) \div 717$
$= 7887 \div 717$
$= 11$

$$\begin{array}{r} 11 \\ 717\overline{)7887} \\ -717 \\ \hline 717 \\ -717 \\ \hline \times \end{array}$$

So, the correct answer is (d) 11.

2. Find the quotient and remainder :

(a) $3185 \div 12$

$$\begin{array}{r} 265 \\ 12\overline{)3185} \\ -24 \\ \hline 78 \\ -72 \\ \hline 65 \\ -60 \\ \hline 5 \end{array}$$

Quotient = 265
Remainder = 5

(b) $4080 \div 15$

$$\begin{array}{r} 272 \\ 15\overline{)4080} \\ -30 \\ \hline 108 \\ -105 \\ \hline 30 \\ -30 \\ \hline \times \end{array}$$

Quotient = 272
Remainder = 0

(c) $6247 \div 13$

$$\begin{array}{r} 480 \\ 13\overline{)6247} \\ -52 \\ \hline 104 \\ -104 \\ \hline 07 \end{array}$$

Quotient = 480
Remainder = 7

(d) $8962 \div 14$

$$\begin{array}{r} 640 \\ 14\overline{)8962} \\ -84 \\ \hline 56 \\ -56 \\ \hline 02 \end{array}$$

Quotient = 640
Remainder = 7

3. Divide the following and check your answer :

(a) $7120 \div 22$

$$\begin{array}{r} 323 \\ 22\overline{)7120} \\ -66 \\ \hline 52 \\ -44 \\ \hline 80 \\ -66 \\ \hline 14 \end{array}$$

Quotient = 323
Remainder = 14

Checking : Dividend = (Quotient × Divisor) + Remainder
$7120 = (323 \times 22) + 14$
$= 7106 + 14$
$= 7120$

So, the division is correct.

(b) $4953 \div 35$

$$\begin{array}{r} 141 \\ 35\overline{)4953} \\ -35 \\ \hline 145 \\ -140 \\ \hline 53 \\ -35 \\ \hline 18 \end{array}$$

Quotient = 141
Remainder = 18

Checking : $4953 = (141 \times 35) + 18$
$= 4935 + 18$
$= 4953$

So, the division is correct.

(c) $6832 \div 40$

$$\begin{array}{r} 170 \\ 40\overline{)6832} \\ -40 \\ \hline 283 \\ -283 \\ \hline 32 \end{array}$$

Quotient = 170
Remainder = 32

Checking : $6832 = (170 \times 40) + 32$
$= 6800 + 32$
$= 6832$

So, the division is correct.

(d) $8606 \div 28$

$$\begin{array}{r} 307 \\ 28\overline{)8606} \\ -84 \\ \hline 206 \\ -196 \\ \hline 10 \end{array}$$

Quotient = 307
Remainder = 10

Checking : $8606 = (307 \times 28) + 10$
$= 8596 + 10$
$= 8606$

So, the division is correct.

(e) $5196 \div 39$

$$\begin{array}{r} 133 \\ 39\overline{)5196} \\ -39 \\ \hline 219 \\ -127 \\ \hline 126 \\ -117 \\ \hline 9 \end{array}$$

Quotient = 133
Remainder = 9

Checking : $5196 = (133 \times 39) + 9$
$= 5187 + 9$
$= 5196$

So, the division is correct.

(f) $9007 \div 19$

$$\begin{array}{r} 474 \\ 19\overline{)9007} \\ -76 \\ \hline 140 \\ -133 \\ \hline 77 \\ -76 \\ \hline 1 \end{array}$$

Quotient = 474
Remainder = 1

Checking : $9007 = (474 \times 19) + 1$
$= 9006 + 1$
$= 9007$

So, the division is correct.

(g) $8562 \div 22$

$$\begin{array}{r} 389 \\ 22\overline{)8562} \\ -66 \\ \hline 196 \\ -176 \\ \hline 202 \\ -198 \\ \hline 4 \end{array}$$

Quotient = 389
Remainder = 4

Checking : $8562 = (389 \times 22) + 4$
$= 8558 + 4$
$= 8562$

So, the division is correct.

(h) 9846 ÷ 26

```
     3 7 8
2 6) 9 8 4 6
    −7 8
     2 0 4
    −1 8 2
       2 2 6
      −2 0 8
         1 8
```

Quotient = 378
Remainder = 18

Checking : 9846 = (378 × 26) + 18
= 9828 + 18
= 9846

So, the division is correct.

4. Divide the following using multiplication tables :

(a) 8895 ÷ 11

```
     8 0 8
1 1) 8 8 9 5
    −8 8
      0 9 5
     −8 8
         7
```

Quotient = 808
Remainder = 7

(b) 6534 ÷ 15

```
     4 3 5
1 5) 6 5 3 4
    −6 0
       5 3
      −4 5
         8 4
        −7 5
           9
```

Quotient = 435
Remainder=9

(c) 7329 ÷ 13

```
     5 6 3
1 3) 7 3 2 9
    −6 5
       8 2
      −7 8
         4 9
        −3 9
         1 0
```

Quotient = 563
Remainder = 10

(d) 5562 ÷ 14

```
     3 9 7
1 4) 5 5 6 2
    −4 2
     1 3 6
    −1 2 6
       1 0 2
        −9 8
           4
```

Quotient = 397
Remainder = 4

5. (a) Quotient = 385, Divisor = 36
Dividend = Quotient × Divisor
= 385 × 36
= 13860

So, the dividend is 13860.

```
       3 8 5
     × 3 6
     2 3 1 0
 + 1 1 5 5 0
   1 3 8 6 0
```

(b) Quotient = 726, Divisor = 43, Remainder = 19
Dividend = (Quotient × divisor) + Remainder
= (726 × 43) + 19
= 31218 + 19
= 31237

```
       7 2 6
       × 4 3
     2 1 7 8
 + 2 9 0 4 0
   3 1 2 1 8
```

6. Solve the following word problems :

(a) Raghu travelled in 6 days = 6144 km
He travelled in 1 day = (6144 ÷ 6) km
= 1024 km

```
    1 0 2 4
6)  6 1 4 4
   −6
    0 1 4
   −1 2
      2 4
     −2 4
        0
```

Thus, Raghu travelled 1024 kilometres in one day.

(b) The number of books = 7800
The number of boxes = 40
So, the number of books in 1 box = 7800 ÷ 40
Thus, there are 195 books in each box.

```
       1 9 5
4 0) 7 8 0 0
    −4 0
     3 8 0
    −3 6 0
       2 0 0
      −2 0 0
           0
```

Exercise 6.4

1. Tick (✓) the correct answer :

1678 is rounded up to 1680
43 is rounded down to 40
Now, the estimated quotient = 1680 ÷ 40
= 42

So, the correct answer is (c) 42.

```
       4 2
4 0) 1 6 8 0
    −1 6 0
         8 0
        −8 0
           0
```

2. Divide and find the estimated quotient :

(a) 630 ÷ 28
We round off 630 to the nearest 100 = 600
We round off 28 to the nearest 10 = 30
Now, the estimated quotient = 600 ÷ 30
= 20

(b) 231 ÷ 2
We round off 231 to the nearest 10 = 230
Now the estimated quotient = 230 ÷ 2
= 115

```
    1 1 5
2)  2 3 0
   −2
    0 3
   −  2
      1 0
     −1 0
        0
```

(c) 702 ÷ 21
We round off 702 to the nearest 100 = 700
We round of 21 to the nearest 10 = 20
Now, the estimated quotient = 700 ÷ 20
= 35

```
       3 5
2 0) 7 0 0
    −6 0
     1 0 0
    −1 0 0
         0
```

(d) $1011 \div 20$

We round off 1011 to the nearest 1000 = 1000

We round off 22 to the nearest 10 = 20

Now, the estimated quotient $= 1000 \div 20$

$= 50$

$$\begin{array}{r} 50 \\ 20\overline{)\,1000} \\ -100 \\ \hline 00 \end{array}$$

(e) $1593 \div 41$

We round off 1593 to the nearest 100 = 1600

We round off 41 to the nearest 10 = 40

Now, the estimated quotient $= 1600 \div 40$

$= 40$

$$\begin{array}{r} 40 \\ 40\overline{)\,1600} \\ -160 \\ \hline 00 \end{array}$$

(f) $1812 \div 33$

We round off 1812 to the nearest 100 = 1800

We round off 33 to the nearest 10 = 30

Now the estimated quotient $= 1800 \div 30$

$= 60$

$$\begin{array}{r} 60 \\ 30\overline{)\,1800} \\ -180 \\ \hline 00 \end{array}$$

(g) $2125 \div 22$

We round off 2125 to the nearest 100 = 2100

We round off 22 to the nearest 10 = 20

Now, the estimated quotient $= 2100 \div 20$

$= 105$

$$\begin{array}{r} 105 \\ 20\overline{)\,2100} \\ -20 \\ \hline 100 \\ -100 \\ \hline 0 \end{array}$$

(h) $3980 \div 18$

We round off 3980 to the nearest 1000 = 4000

We round off 18 to the nearest 10 = 20

Now, the estimated quotient $= 4000 \div 20$

$= 200$

$$\begin{array}{r} 200 \\ 20\overline{)\,4000} \\ -40 \\ \hline -000 \end{array}$$

Exercise 6.5

Solve the given word problems :

1. The number of balloons = 1008

The number of bunches that were made = 36

So, the number of balloons in 1 bunch $= 1008 \div 36$

$= 28$

$$\begin{array}{r} 28 \\ 36\overline{)\,1008} \\ -72 \\ \hline 288 \\ -288 \\ \hline 0 \end{array}$$

Thus, there are 28 balloons in each bunch.

2. The number of seats in the stadium = 1440

The number of rows of seats = 48

So, the number of seats in 1 row $= 1440 \div 48$

$= 30$

$$\begin{array}{r} 30 \\ 48\overline{)\,1448} \\ -144 \\ \hline 00 \end{array}$$

3. The total amount of sugar = 4158 kg

The number of bags filled with sugar = 42

So, the amount of sugar in 1 bag $= (4158 \div 42)$ kg

$= 99$ kg

$$\begin{array}{r} 99 \\ 42\overline{)\,4158} \\ -378 \\ \hline 378 \\ -378 \\ \hline 0 \end{array}$$

Thus, the amount of sugar in each bag is 99 kilogram.

4. The total length of ribbon = 4590 m

The number of rolls of ribbon = 18

So, the length of ribbon in 1 roll $= (4590 \div 18)$ m

$= 255$ m

$$\begin{array}{r} 255 \\ 18\overline{)\,4590} \\ -36 \\ \hline 99 \\ -90 \\ \hline 90 \\ -90 \\ \hline 0 \end{array}$$

Thus, the length of ribbon in each roll is 255 metre.

5. The money distributed by bunny = ` 7344

The number of friends = ` 16

So, the money received by 1 friend = ` $(7344 \div 16)$

= ` 459

$$\begin{array}{r} 459 \\ 16\overline{)\,7344} \\ -64 \\ \hline 94 \\ -80 \\ \hline 144 \\ -144 \\ \hline 0 \end{array}$$

Thus, the money received by each friend is ` 459.

No money is left with Bunny.

6. The number of cakes sold by Goodies Bakery in the month of July = 7254

The number of days in the month of July = 31

So, the number of cakes sold each day $= 7254 \div 31$

$= 234$

$$\begin{array}{r} 234 \\ 31\overline{)\,7254} \\ -62 \\ \hline 105 \\ -93 \\ \hline 124 \\ -124 \\ \hline 0 \end{array}$$

Thus, 234 cakes were sold each day.

7. The money collected by Ravi for Teacher's day celebration = ` 1000

The number of students in his class = 50

So, the money contributed by 1 student $= (1000 \div 50)$

= ` 20

$$\begin{array}{r} 20 \\ 50\overline{)\,1000} \\ -100 \\ \hline 05 \end{array}$$

Thus, each student contributed ` 20.

8. The number of flower pots = ` 8016
The number of rows of flower pots = ` 48
So, the number of flower pots in 1 row = ` 8016 ÷ 48
= ` 167

```
      167
48 ) 8016
    -48
     321
    -288
      336
     -336
       0
```

Thus, there were 167 flower pots in each row.

9. The cost of boxes of sweet bought by Mrs Madhu = ` 3553
The number of boxes of sweet = ` 17
So, the cost of 1 box of sweet = ` (3553 ÷ 17)
= ` 209

```
      209
17 ) 3553
    -34
     153
    -153
       0
```

Thus, the cost of each box of sweet was ` 209.

Exercise 6.6

Frame two different word problems for each of the following :

(a) 1440 ÷ 15
- (i) A king had 1440 horse-riders in his army. He divided them into 15 troops. How many horse-riders were there in each troop?
- (ii) There were 1440 soldiers in 15 barracks of army. How many soldiers were there in each barrack ?

(b) 1332 ÷ 18
- (i) 1332 toffees are distributed among 18 children equally. How much toffees does each child get ?
- (ii) There were 1332 student in a school in 18 sections of classes. If each section held equal number of students, how many students were there in each section ?

(c) 2622 ÷ 23
- (i) There are 23 floors in huge building. Each floor has equal number of flats. If there are totally 2622 flats in the building, how many flats are there on each floor ?
- (ii) A famous doctor checked 2622 patients in 23 days. How many patients he checked per day ?

(d) 2244 ÷ 34
- (i) A fruit-seller sells 2244 apples in 34 days. How many apples he sells in a day ?
- (ii) An examiner checked 2244 answer-sheets in 34 days. How many answer-sheets he checked per day?

(e) 2378 ÷ 29
- (i) The total money collected from 29 shopkeepers for tax was 2378. Find out the amount paid by each shopkeeper.
- (ii) 29 books has equal number of pages. If the total number of pages are 2378. How many pages are there in each book.

(f) 5400 ÷ 40
- (i) 5400 examinees sit in 40 rooms in an examination. If the number of examinees in each room is equal, How many examinees sits in each room ?
- (ii) Mr. Ritesh distributed 5400 calendars to his 40 distributers. How many calendars did each distributer get ?

Revision

1. Write division facts for the given multiplication facts :

(a) 4 × 2 = 8
Division facts : 8 ÷ 2 = 4, 8 ÷ 4 = 2

(b) 7 × 6 = 42
Division facts : 42 ÷ 7 = 6, 42 ÷ 6 = 7

(c) 5 × 10 = 50
Division facts : 50 ÷ 5 = 10, 50 ÷ 10 = 5

(d) 9 × 4 = 36
Division facts : 36 ÷ 9 = 4, 36 ÷ 4 = 9

2. Divide and check your answer :

(a) 4867 ÷ 6

```
      811
6 ) 4867
    -48
     06
    -6
      07
     -6
      1
```

Quotient = 811
Remainder = 1

Checking : (By the fact : Dividend = (Quotient × divisor) + Remainder)
4867 = (811 × 6) + 1
= 4866 + 1 = 4867
Thus the division is correct.

(b) 83 ÷ 17

```
      4
17 ) 83
    -68
     15
```

Quotient = 4
Remainder = 15

Checking : 83 = (4 × 17) + 15
= 68 + 15
= 83
Thus the division is correct.

(c) 314 ÷ 76

```
      4
76 ) 314
    -304
      10
```

Quotient = 4
Remainder = 10

Checking : 314 = (4 × 76) + 10
= 304 + 10
= 314
Thus the division is correct.

(d) 5292 ÷ 42

```
      126
42 ) 5292
    -42
     109
    -84
      252
     -252
       0
```

Quotient = 126
Remainder = 0

Checking : $5292 = (126 \times 42) + 0$
$= 5292 + 0$
$= 5292$

Thus the division is correct.

$$\begin{array}{r} 126 \\ \times\ 42 \\ \hline 252 \\ +\ 5040 \\ \hline 5292 \end{array}$$

(e) $841 \div 2$

$$\begin{array}{r} 420 \\ 2\overline{)\,841} \\ -\ 8 \\ \hline 04 \\ -\ 4 \\ \hline 01 \end{array}$$

Quotient = 420
Remainder = 1

Checking : $841 = (420 \times 2) + 1$
$= 840 + 1$
$= 841$

Thus the division is correct.

(f) $63 \div 34$

$$\begin{array}{r} 1 \\ 34\overline{)\,63} \\ -\ 34 \\ \hline 29 \end{array}$$

Quotient = 1
Remainder = 29

Checking : $63 = (1 \times 34) + 29$
$= 34 + 29$
$= 63$

Thus the division is correct.

(g) $8016 \div 24$

$$\begin{array}{r} 334 \\ 24\overline{)\,8016} \\ -\ 72 \\ \hline 81 \\ -72 \\ \hline 96 \\ -\ 96 \\ \hline 0 \end{array}$$

Quotient = 334
Remainder= 0

Checking : $8016 = (334 \times 24) + 0$
$= 8016 + 0$
$= 8016$

Thus the division is correct.

$$\begin{array}{r} 334 \\ \times\ 24 \\ \hline 1336 \\ +\ 6680 \\ \hline 8016 \end{array}$$

(h) $9167 \div 47$

$$\begin{array}{r} 195 \\ 47\overline{)\,9167} \\ -\ 47 \\ \hline 446 \\ -\ 423 \\ \hline 237 \\ -\ 235 \\ \hline 2 \end{array}$$

Quotient = 195
Remainder = 2

Checking : $9167 = (195 \times 47) + 2$
$= 9165 + 2$
$= 9167$

Thus the division is correct.

3. Find the quotient and the remainder :

(a) $460 \div 10$

$$\begin{array}{r} 46 \\ 10\overline{)\,460} \\ -\ 40 \\ \hline 60 \\ -\ 60 \\ \hline 0 \end{array}$$

Quotient = 46
Remainder = 0

(b) $8175 \div 10$

$$\begin{array}{r} 817 \\ 10\overline{)\,8175} \\ -\ 80 \\ \hline 17 \\ -\ 10 \\ \hline 75 \\ -\ 70 \\ \hline 5 \end{array}$$

Quotient = 817
Remainder = 5

(c) $460 \div 100$

$$\begin{array}{r} 4 \\ 100\overline{)\,460} \\ -\ 400 \\ \hline 60 \end{array}$$

Quotient = 4
Remainder = 60

(d) $8175 \div 100$

$$\begin{array}{r} 81 \\ 100\overline{)\,8175} \\ -\ 800 \\ \hline 175 \\ -\ 100 \\ \hline 75 \end{array}$$

Quotient = 81
Remainder = 75

4. Dhruv took to solve 12 division problems = 84 min
So, he took to solve 1 division problem = $(84 \div 12)$ min
= 7 min

$$\begin{array}{r} 7 \\ 12\overline{)\,84} \\ -\ 84 \\ \hline 0 \end{array}$$

Thus, Dhruv took 7 minutes to solve one problem.

5. For 20, I can get = 1 note of 20 rupees
So, for ` 920, I can get = $(920 \div 20)$ notes of 20 rupees
= 46 notes of 20 rupees

$$\begin{array}{r} 46 \\ 20\overline{)\,920} \\ -\ 80 \\ \hline 120 \\ -\ 120 \\ \hline 0 \end{array}$$

Thus, i can get 46 notes of 20 rupees for ` 920.

6. The number of bottles the shopkeeper wants to pack = 5064
The capacity of 1 carton =67 bottles
So, 5064 bottles can be packed in $(5064 \div 67)$ cartons
= 75 cartons and 39 bottles will be left.

$$\begin{array}{r} 75 \\ 67\overline{)\,5064} \\ -\ 469 \\ \hline 374 \\ -\ 335 \\ \hline 39 \end{array}$$

Thus, 75 cartons will be required and 39 bottles will be left.

Exercise 7.1

1. Find the factors through multiplication :

(a) $21 : 1 \times 21 = 21$, $3 \times 7 = 21$
The factors of 21 are 1, 3, 7 and 21.

(b) $16 : 1 \times 16 = 16$, $2 \times 8 = 16$, $4 \times 4 = 16$
The factors of 16 are 1, 2, 4, 8 and 16.

(c) $42 : 1 \times 42 = 42$, $2 \times 21 = 42$, $3 \times 14 = 42$, $6 \times 7 = 42$
The factors of 42 are 1, 2, 3, 6, 7, 14, 21 and 42.

(d) $36 : 1 \times 36 = 36$, $2 \times 18 = 36$, $3 \times 12 = 36$, $4 \times 9 = 36$, $6 \times 6 = 36$
The factors of 36 are 1, 2, 3, 4, 6, 9, 12, 18, and 36.

2. Find the factors through division :

(a) $14 : 14 \div 1 = 14$, $14 \div 2 = 7$
The factors of 14 are 1, 2, 7 and 14.

(b) $28 : 28 \div 1 = 28$, $28 \div 2 = 14$, $28 \div 4 = 7$
The factors of 28 are 1, 2, 4, 7, 14 and 28

(c) $30 : 30 \div 1 = 30$, $30 \div 2 = 15$, $30 \div 3 = 10$, $30 \div 5 = 6$
The factors of 30 are 1, 2, 3, 5, 6, 15 and 30.

(d) $17 : 17 \div 1 = 17$
The factors of 17 are 1 and 17.

3. Is 4 is a factor of 56 ?

Since remainder is 0, 4 is a factor of 56.

```
  14
4)56
 -4
  16
 -16
   0
```

4. Find the common factors of the following :

(a) 14 and 36
Factors of 14 → 1, 2, 7 and 14.
Factors of 36 → 1, 2, 3, 4, 6, 9, 12, 18 and 36.
The common factors of 14 and 36 are 1 and 2.

(b) 35 and 70
Factors of 35 →1, 5, 7 and 35.
Factors of 70 → 1, 2, 5, 7, 10, 14, 35 and 70.
Therefore the common factors of 35 and 70 are 1, 5, 7 and 35.

5. Write 'T' for true and 'F' for false :

(a) 3 is a factor of 27.

```
  9
3)56
 -27
   6
```

Remainder is 0. So, 3 is a factor of 27.
Answer 'T'

(b) 0 is a factor of 5.
$5 \div 0$ = Not possible.
So, 0 is not a factor of 5.
Answer : 'F'

(c) 1 is a factor of every number.
Answer is 'T'.

(d) 2, 3,4, 5, are factors of 30.
Factors of 30 → $1 \times 30 = 30$, $2 \times 15 = 30$, $3 \times 10 = 30$, $5 \times 6 = 30$
→ 1, 2, 3, 5, 6, 10, 15 and 30.
So, 2, 3, 4, 5 are not factors of 30.
Answer : 'F'

(e) 7 is a common factor of 28 and 53.
Factors of 28 → $1 \times 28 = 28$, $2 \times 14 = 28$, $4 \times 7 = 28$
→ 1, 2, 4, 7, 14 and 28.
Factors of 53 → $1 \times 53 = 53$ → 1 and 53.
Comparing the factors, 7 is not a common factor of 28 and 53.
Answer : 'F'

Exercise 7.2

1. Find the first four multiples of these numbers :

(a) $3 = 3 \times 1 = 3$, $3 \times 2 = 6$, $3 \times 3 = 9$, $3 \times 4 = 12$
The first four multiples of 3 are 3, 6, 9 and 12.

(b) $8 = 8 \times 1 = 8$, $8 \times 2 = 16$, $8 \times 3 = 24$, $8 \times 4 = 32$
The first four multiples of 8 are 8, 16, 24 and 32.

(c) $7 = 7 \times 1 = 7$, $7 \times 2 = 14$, $7 \times 3 = 21$, $7 \times 4 = 28$
The first four multiples of 7 are 7, 14, 21 and 28.

(d) $12 = 12 \times 1 = 12$, $12 \times 2 = 24$, $12 \times 3 = 36$, $12 \times 4 = 48$
The first four multiples of 12 are 12, 24, 36 and 48.

2. Is 54 a multiple of 4 ?

```
  13
4)54
 -4
  14
 -12
   2
```

Remainder is not 0. So, 54 is not a multiple of 4.
Answer : 'No'

3. Find the 7th multiple of 11.

7th multiple of 11= $11 \times 1 = 11$, $11 \times 2 = 22$, $11 \times 3 = 33$, $11 \times 4 = 44$, $11 \times 5 = 55$, $11 \times 6 = 66$, $11 \times 7 = 77$
The 7th multiple of 11 is 77.

4. Write the first four common multiples of the following :

(a) 2 and 5
Multiples of 2 → 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24 26, 28, 30, 32, 34, 36, 38, 40.
Multiples of 5 → 5, 10, 15, 20, 25, 30, 35, 40, 45, 50.
The first four common multiples of 2 and 5 are 10, 20, 30 and 40.

(b) 8 and 12
Multiples of 8 → 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, 88, 96 .....
Multiples of 12 → 12, 24, 36, 48, 60, 72, 84, 96 .....
The first four common multiples of 8 and 12 are 24, 48, 72, and 96.

5. Write 'T' for true and 'F' for false :

(a) 49 is a multiple of 3.

```
  16
3)49
 -3
  19
 -18
   1
```

remainder is not 0. So, 49, is not a multiple of 3.
Answer : 'F'

(b) 72 is the 8th multiple of 9.
Multiple of 9 → 9, 18, 27, 36, 45, 54, 63, 72.....
72 is the 8th multiple of 9. Answer 'T'.

(c) Every multiple of a number is smaller than the number
Answer : 'F'

(d) 6, 12, 18, 24 are some of the common multiples of 2 and 3.
Multiples of 2 → 2, 4, 6, 8, 10, 12, 14. 16, 18, 20, 22, 24 ....
Multiples of 3 → 3, 6, 9, 12, 15, 18, 21, 24 .....
Comparing the multiples : 6, 12, 15, 18, 24 are some of the common multiple of 2 and 3. Answer 'T'.

(e) 17 is a multiples of 17.
By the fact 17 × 1 = 17, 17 is a multiple of 17.
Answer 'T'.

Exercise 7.3

1. Is 47 an even number?

$$2\overline{)47}\quad 23,\ -4,\ 07,\ -6,\ 1$$

Since remainder is not 0, 2 is not a factors of 47.
Therefore, 47 is not an even number. It is an odd number.
Answer : **No**.

2. Is 59 an odd number?

$$2\overline{)59}\quad 29,\ -4,\ 19,\ -18,\ 1$$

Since remainder is not 0, 59 is not a multiple of 2.
Therefore 59 is an odd number. Answer ***Yes.***

3. Put a tick (✓) for an even number and cross (✗) for an odd number :

(a) 23 ✗ (b) 16 ✓ (c) 45 ✗ (d) 144 ✓
(e) 121 ✗ (f) 220 ✓ (g) 251 ✗ (h) 9 ✗

[**Hint :** Divide the number by 2. If remainder is 0, the number is even and, if remainder is not 0, the number is odd]

Revision

1. List all the factors of :

(a) 72 → 72 ÷ 1 = 72, 72 ÷ 2 = 36,
72 ÷ 3 = 24, 72 ÷ 4 = 18,
72 ÷ 6 = 12, 72 ÷ 8 = 9.
The factors of 72 are 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, and 72.

(b) 96 → 96 ÷ 1 = 96, 96 ÷ 2 = 48,
96 ÷ 3 = 32, 96 ÷ 4 = 24,
96 ÷ 6 = 16, 96 ÷ 8 = 12.
The factors of 96 are 1, 2, 3, 4, 6, 8, 12, 16, 24, 32, 48, and 96.

(c) 91 → 91 ÷ 7 = 13, 91 ÷ 13 = 7
The factors of 91 are 1, 7, 13 and 91.

2. Is 24 is a factors of 120?

$$24\overline{)120}\quad 5,\ -120,\ 0$$

Since remainder is 0, 24 is a factor of 120.
Answer : ***Yes***

3. Write the common factors of :

(a) 20 and 48
Factors of 20 → 20 ÷ 1 = 20, 20 ÷ 2 = 10, 20 ÷ 4 = 5
→ 1, 2, 4, 5, 10 and 20.
Factors of 48 → 48 ÷ 1 = 48, 48 ÷ 2 = 24, 48 ÷ 3 = 16, 48 ÷ 4 = 12, 48 ÷ 6 = 8
→ 1, 2, 3, 4, 6, 8, 12, 16, 24, 48
Comparing the multiples, the common factors 20 and 48 are 1, 2 and 4.

(b) 12 and 18
Factors of 12 → 12 ÷ 1 = 12, 12 ÷ 2 = 6, 12 ÷ 3 = 4
→ 1, 2, 3, 4, 6, and 12.
Factors of 18 → 18 ÷ 1 = 18, 18 ÷ 2 = 9, 18 ÷ 3 = 6
→ 1, 2, 3, 6, 9, 18
comparing the multiples, the common factors of 12 and 18 are 1, 2, 3 and 6.

4. Find the first five multiples of :

(a) 17 → 17 × 1 = 17, 17 × 2 = 34, 17 × 3 = 51,
17 × 4 = 68, 17 × 5 = 85
The first five multiples of 17 are 17, 34, 51, 68 and 85.

(b) 11 → 11 × 1 = 11, 11 × 2 = 22, 11 × 3 = 33,
11 × 4 = 44, 11 × 5 = 55
The first five multiples of 11 are 11, 22, 33, 44 and 55.

5. The fifth multiple of 3 → 3 × 5 = 15
The third multiple of 5 → 5 × 3 = 15
Therefore the fifth multiple of 3 is equal to the third multiple of 5. Answer : **Yes.**

6. Write the first two common multiples of :

(a) 12 and 30
Multiples of 12 → 12 × 1 = 12, 12 × 2 = 24,
12 × 3 = 36,
12 × 4 = 48, 12 × 5 = 60, 12 × 6 = 72,
12 × 7 = 84, 12 × 8 = 96, 12 × 9 = 108,
12 × 10 = 120.
Multiples of 30 → 30 × 1 = 30, 30 × 2 = 60 , 30 × 3 = 90, 30 × 4 = 120
Therefore the first two common multiples of 12 and 30 are 60 and 120.

(b) 9 and 12
Multiples of 9 → 9 × 1 = 9, 9 × 2 = 18, 9 × 3 = 27,
9 × 4 = 36.
9 × 5 = 45, 9 × 6 = 54, 9 × 7 = 63, 9 × 8 = 72 ....
Multiples of 12 → 12 × 1 = 12, 12 × 2 = 24, 12 × 3 = 36. 12 × 4 = 48,
12 × 5 = 60, 12 × 6 = 72.....

Therefore the first two common multiples of 9 and 12 are 36 and 72.

7. Answer : Yes .

8. Is 43 an even number? If not, then what kind of a number is it?

$$\begin{array}{r} 21 \\ 2\overline{)43} \\ -4 \\ \hline 03 \\ -2 \\ \hline 1 \end{array}$$

Since remainder is not 0, 43 is not a multiple of 2. So, 43 is not an even number. Therefore, it is an odd number. Answer : **No.**

9. Write 'T' for true or 'F' for false :

(a) Answer : 'F'

(b) 81 is a multiple of 3.

$$\begin{array}{r} 27 \\ 3\overline{)81} \\ -6 \\ \hline 21 \\ -21 \\ \hline 0 \end{array}$$

Since remainder is 0, 81 is a multiple of 3. Answer. 'T'

(c) 2, 5, 10, 25 are factors of 50.
Factors of 50 → 50 ÷ 1 = 50, 50 ÷ 2 = 25, 50 ÷ 5 = 10
Therefore 2, 5, 10, 25, are factors of 50. Answer 'T'.

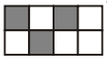
(d) 11 is a common factors of 55 and 99.
Factors of 55 → 55 ÷ 1 = 55, 55 ÷ 5 = 11
Factors of 99 → 99 ÷ 1 = 99, 99 ÷ 3 = 33,
99 ÷ 9 = 11
Therefore, 11 is a common factor of 55 and 99. Answer 'T'.

(e) 12, 24, 36, 48 are some of the common multiples of 4 and 6.
Multiples of 4 → 4 × 1 = 4, 4 × 2 = 8, 4 × 3 = 12, 4 × 4 = 16,
→ 4 × 5 = 20, 4 × 6 = 24, 4 × 7 = 28, 4 × 8 = 32,
4 × 9 = 36, 4 × 10 = 40, 4 × 11 = 44, 4 × 12 = 48 ...
Multiples of 6 → 6 × 1 = 6, 6 × 2 = 12, 6 × 3 = 18, 6 × 4 = 24,
6 × 5 = 30, 6 × 6 = 36, 6 × 7 = 42, 6 × 8 = 48
Comparing the multiples; 12, 24, 36, 48 are some the common multiples of 4 and 6. Answer : 'T'.

8 Fractions

Exercise 8.1

1. Write the fractions for the coloured part :

(a)  $= \frac{2}{5}$ (b)  $= \frac{3}{8}$ (c)  $= \frac{1}{4}$

(a)  $= \frac{4}{10}$ (b)  $= \frac{1}{4}$ (c)  $= \frac{1}{4}$

2. Draw figures to represent the given fractions :

(a) $\frac{1}{2}$ = 

(b) $\frac{3}{5}$ = 

(c) $\frac{3}{4}$ = 

(d) $\frac{1}{3}$ = 

3. Complete the table :

SI. No.	Numerator	Denominator	Fractions
(a)	7	10	$\frac{7}{10}$
(b)	8	15	$\frac{8}{15}$
(c)	12	23	$\frac{12}{23}$
(d)	9	25	$\frac{9}{25}$
(e)	24	29	$\frac{24}{29}$
(f)	36	47	$\frac{36}{47}$

4. (d) $\frac{3}{5}$

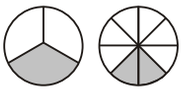
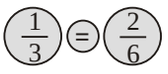
Exercise 8.2

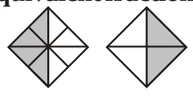
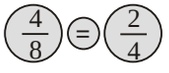
1. Do yourself.

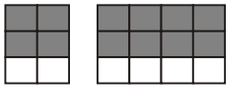
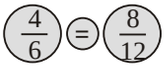
2. (a) $\frac{1}{3} = \frac{2}{6}$ (b) $\frac{4}{8} = \frac{2}{4}$ (c) $\frac{2}{6} = \frac{1}{3}$

(d) $\frac{3}{4} = \frac{6}{8}$ (e) $\frac{2}{3} = \frac{4}{6}$ (f) $\frac{1}{3} = \frac{2}{6}$

3. Colour the following to show equivalent fractions :

(a) 


(b) 


(c) 


Exercise 8.3

1. Which of the following sets to fractions are like fractions and unlike fractions :

(a) $\frac{2}{6}, \frac{4}{6}$ Denominators in these fractions are same. Therefore, these are like fractions.

(b) $\frac{1}{8}, \frac{2}{8}, \frac{4}{8} \rightarrow$ Denominators in these fractions are same. Therefore, these are like fractions.

(c) $\frac{2}{5}, \frac{3}{5}, \frac{4}{6} \rightarrow$ Denominators in these fractions are not same. Therefore these are unlike fractions.

(d) $\frac{2}{4}, \frac{2}{5}, \frac{2}{6}$ → Denominators in these fractions are not same. Therefore, these are unlike fractions.

(e) $\frac{3}{7}, \frac{2}{7}, \frac{5}{7}$ → Denominators in these fractions are same. Therefore, these are like fractions.

(f) $\frac{4}{5}, \frac{4}{6}, \frac{4}{8}$ → Denominators in these fractions are not same. Therefore these are unlike fractions.

(g) $\frac{2}{9}, \frac{5}{9}, \frac{4}{9}, \frac{1}{9}$ → Denominators in these fractions are same. Therefore, these are like fractions.

(h) $\frac{1}{4}, \frac{1}{6}, \frac{1}{9}$ → Denominator in these fractions are not same. Therefore, these are unlike fractions.

2. Circle the smaller fraction in each of the following :

(a) $\frac{7}{12}$ $\frac{9}{12}$ (b) $\frac{7}{8}$ $\frac{1}{8}$ (c) $\frac{19}{32}$ $\frac{29}{32}$

(d) $\frac{18}{19}$ $\frac{17}{19}$ (e) $\frac{23}{25}$ $\frac{21}{25}$ (f) $\frac{13}{14}$ $\frac{11}{14}$

[Hint : if the denominators are same, the fractions with the greater numerators will be greater fractions.]

3. Circle the greater fractions in each of the following :

(a) $\frac{13}{24}$ $\frac{22}{24}$ (b) $\frac{33}{41}$ $\frac{31}{41}$ (c) $\frac{4}{9}$ $\frac{5}{9}$

(a) $\frac{5}{17}$ $\frac{9}{17}$ (b) $\frac{11}{15}$ $\frac{13}{15}$ (c) $\frac{1}{2}$ $\frac{2}{2}$

4. Compare the following fractions by putting the sign >, < or = :

(a) $\frac{4}{5} > \frac{3}{5}$ (b) $\frac{7}{10} > \frac{5}{10}$ (c) $\frac{4}{9} = \frac{4}{9}$

(d) $\frac{9}{16} < \frac{15}{16}$ (e) $\frac{11}{18} < \frac{13}{18}$ (f) $\frac{10}{20} < \frac{11}{20}$

(g) $\frac{20}{23} < \frac{21}{23}$ (h) $\frac{6}{6} > \frac{1}{6}$ (i) $\frac{27}{37} > \frac{17}{37}$

5. Arrange and write the following fractions in ascending order :

The denominators in all these fractions are the same. So, these are like fractions. Arranging from the smallest to the biggest or in ascending order, the fractions are as :

(a) $\frac{2}{10}, \frac{5}{10}, \frac{7}{10}, \frac{9}{10}$ (b) $\frac{3}{19}, \frac{9}{19}, \frac{16}{19}, \frac{18}{19}$

(c) $\frac{1}{12}, \frac{3}{12}, \frac{9}{12}, \frac{11}{12}$ (d) $\frac{1}{8}, \frac{2}{8}, \frac{5}{8}, \frac{7}{8}$

(e) $\frac{4}{15}, \frac{9}{15}, \frac{11}{15}, \frac{14}{15}$ (f) $\frac{1}{29}, \frac{3}{29}, \frac{9}{29}, \frac{11}{29}$

6. Arrange and write the following fractions in descending order :

The denominators in all these fractions are the same. So, these are like fractions. Arranging from the biggest to the smallest or in descending order, the fractions are as :

(a) $\frac{14}{15}, \frac{11}{15}, \frac{9}{15}, \frac{4}{15}$ (b) $\frac{11}{29}, \frac{9}{29}, \frac{3}{29}, \frac{1}{29}$

(c) $\frac{6}{7}, \frac{5}{7}, \frac{3}{7}, \frac{1}{7}$ (d) $\frac{17}{18}, \frac{15}{18}, \frac{8}{18}, \frac{5}{18}$

(e) $\frac{20}{22}, \frac{17}{22}, \frac{11}{22}, \frac{1}{22}$ (f) $\frac{9}{13}, \frac{7}{13}, \frac{3}{13}, \frac{1}{13}$

Exercise 8.4

1. Add the given fractions :

(a) $\frac{1}{4} + \frac{2}{4} = \frac{1+2}{4} = \frac{3}{4}$ (b) $\frac{3}{7} + \frac{3}{7} = \frac{3+3}{7} = \frac{6}{7}$

(c) $\frac{8}{15} + \frac{5}{15} = \frac{8+5}{15} = \frac{13}{15}$ (d) $\frac{11}{20} + \frac{6}{20} = \frac{11+6}{20} = \frac{17}{20}$

(e) $\frac{21}{35} + \frac{10}{35} = \frac{21+10}{35} = \frac{31}{35}$ (f) $\frac{7}{19} + \frac{8}{19} = \frac{7+8}{19} = \frac{15}{19}$

(g) $\frac{23}{47} + \frac{15}{47} + \frac{5}{47} = \frac{23+15+5}{47} = \frac{43}{47}$

(h) $\frac{11}{24} + \frac{9}{24} + \frac{3}{24} = \frac{11+9+3}{24} = \frac{23}{24}$

(i) $\frac{22}{50} + \frac{11}{50} + \frac{10}{50} = \frac{22+11+10}{50} = \frac{43}{50}$

2. Subtract the given fractions :

(a) $\frac{10}{12} - \frac{7}{12} = \frac{10-7}{12} = \frac{3}{12} = \frac{1}{4}$ (b) $\frac{19}{21} - \frac{11}{21} = \frac{19-11}{21} = \frac{8}{21}$

(c) $\frac{23}{28} - \frac{15}{28} = \frac{23-15}{28} = \frac{8}{28} = \frac{2}{7}$

(d) $\frac{27}{32} - \frac{18}{32} = \frac{27-15}{32} = \frac{9}{32}$

(e) $\frac{34}{44} - \frac{26}{44} = \frac{34-26}{44} = \frac{8}{44}$

(f) $\frac{17}{38} - \frac{9}{38} = \frac{17-9}{38} = \frac{8}{38} = \frac{4}{19}$

(g) $\frac{15}{17} - \frac{8}{17} = \frac{15-8}{17} = \frac{7}{17}$

(h) $\frac{37}{39} - \frac{29}{39} = \frac{37-29}{39} = \frac{8}{39}$

3. Fill in the blanks using '+' or '–' sign :

(a) $\frac{8}{15} - \frac{1}{15} = \frac{7}{15}$ (b) $\frac{5}{9} + \frac{3}{9} = \frac{8}{9}$

(c) $\frac{13}{29} + \frac{8}{29} = \frac{21}{29}$ (d) $\frac{7}{13} + \frac{5}{13} = \frac{12}{13}$

(e) $\frac{24}{31} - \frac{9}{31} = \frac{15}{31}$ (f) $\frac{31}{36} - \frac{19}{36} = \frac{12}{36}$

Exercise 8.5

1. Find the following fractions :

(a) $\frac{1}{5}$ of 40

We first divide 40 by 5 → 40 ÷ 5 = 8
Then, we multiply 8 by 1→ 8 × 1 = 8
So, $\frac{1}{5}$ of 40 =8

(b) $\frac{3}{4}$ of 20

We first divide 20 by 4 → 20 ÷ 4 = 5
Then, we multiply 5 × 3 → 15
So, $\frac{3}{4}$ of 20 = 15

(c) $\frac{5}{8}$ of 72

We first divide 72 by 8 → 72 ÷ 8 = 9
Then, we multiply 9 by 5 = 9 × 5 → 45
So, $\frac{5}{8}$ of 72 = 45

(d) $\frac{7}{12}$ of 60

We first divide 60 by 12 = 60 ÷ 12 = 5
Then we multiply 5 by 7 = 5 × 7 = 35
So, $\frac{7}{12}$ of 60 = 35

(e) $\frac{9}{11}$ of 88

We first divide 88 by 11 → 88 ÷ 11 = 8
Then we multiply 8 by 9 → 8 × 9 = 72
So, $\frac{9}{11}$ of 88 = 72

(f) $\frac{6}{7}$ of 70

We first divide 70 by 7 → 70 ÷ 7 = 10
Then we multiply 10 by 6 → 10 × 6 = 60
So, $\frac{6}{7}$ of 70 = 60

(g) $\frac{3}{9}$ of 81

We first divide 81 by 9 → 81 ÷ 9 = 9
Then, we multiply 9 by 3 → 9 × 3 = 27
So, $\frac{3}{9}$ of 81 = 27

(h) $\frac{6}{11}$ of 99

We first divide 99 by 11 → 99 ÷ 11 = 9
Then we multiply 9 by 6 → 54
So, $\frac{6}{11}$ of 99 = 54

2. Solve the following word problems :

(a) Find $\frac{4}{7}$ of 350 g

We first divide 350 by 7 → 350 ÷ 7 = 50
Then we multiply 50 by 4 → 50 × 4 = 200
So, $\frac{4}{7}$ of 350 g = 200 g

(b) To find the number of broken eggs, we find, $\frac{2}{9}$ of 45 eggs

We first divide 45 by 9 → 45 ÷ 9 = 5
Then we multiply 5 by 2 → 5 × 2 = 10
So, $\frac{2}{9}$ of 45 eggs = 10 eggs

So, 10 eggs had broken.
Number of eggs left = (45 – 10) = 35
Answer : 10 eggs broken and 35 eggs are left.

(c) To find the distance that Amit walked, we find, $\frac{1}{4}$ of 12 km.
We first divide 12 by 4 → 12 ÷ 4 = 3
Then we multiply 3 by 1 → 3 × 1 =3
So, Amit walked 3 km.
Answer : The distance that Amit walked is 3 km.

(d) To find the number of notebooks that were colleted, we find, $\frac{3}{5}$ of the 40 notebooks.
We first divide 40 by 5 → 40 ÷ 5 = 8
Then we multiply 8 by 3 →8 × 3 = 24

So, the teacher collected 24 notebooks.

Answer : 24 notebook were collected.

(e) To find the number of red colour balloons, we find $\frac{3}{4}$ of 60 balloons.
First we divide 60 by 4 → 60 ÷ 4 = 15
Then we multiply 15 by 3 → 15 × 3 = 45
So, the number of red colour balloons is 45.
Now, the number of blue colour balloons = (60 – 45) = 15
Answer : 45 red and 15 blue colour balloons are there in the room.

3. $\frac{2}{5}$ of ` 125 is _____.
We first divide 125 by 5 = 125 ÷ 5 = 25
Then we multiply by 2 = 25 × 2 = 50
Answer (c) : ` 50

Exercise 8.6

1. (b), (c), (f), (h), (i) and (k) will be coloured in red and (a), (d), (e), (g) (j), and (l) will be coloured in blue.

2. Form at least 3 fractions of each of the following types using the numbers given :
2, 5, 9, 6, 1, 10, 3

(a) Unit fractions : $\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{5}$

(b) Proper fractions : $\frac{2}{5}$ $\frac{3}{5}$ $\frac{5}{6}$

(c) Improper fractions : $\frac{10}{9}$ $\frac{5}{3}$ $\frac{6}{5}$

(d) Like fractions : $\frac{1}{10}$ $\frac{3}{10}$ $\frac{5}{10}$

(e) Unlike fractions : $\frac{2}{5}$ $\frac{9}{10}$ $\frac{1}{6}$

Exercise 8.7

1. Whole parts of the given mixed fractions are :
(a) 7, (b) 10, (c) 15, (d) 9.

2. Convert the following improper fractions into whole numbers or mixed fractions :

(a) $\frac{7}{2}$: We divide 7 by 2.

$$2\overline{)7}\ 3,\quad -6,\quad 1$$

In division, quotient 3 is whole number, remainder 1 is numerator and denominator remains the same 2.
Thus, the mixed fractions is $3\frac{1}{2}$.

(b) $\frac{14}{7}$: We divide 14 by 7.

$$7\overline{)14}\ 2,\quad -14,\quad 0$$

In the division quotient 2 is whole number.
Therefore, answer is 2.

(c) $\frac{52}{8}$: We divide 52 by 8.

$$8\overline{)52}\ 6,\quad -48,\quad 4$$

In division, quotient 6 is whole number, remainder 4 is numerator and denominator remains the same 8.

Thus, the mixed fraction is $6\frac{4}{8} = 6\frac{1}{2}$

(d) $\frac{72}{8}$: We divide 72 by 8.

$$8\overline{)72}\ 9,\quad -72,\quad 0$$

In the division quotient 9 is whole number. Therefore, answer is 9.

(e) $\frac{100}{9}$: We divide 100 by 9.

$$9\overline{)100}\ 11,\quad -9,\quad 10,\quad -9,\quad 1$$

In the division quotient 11 is whole number, remainder is numerator and denominator remains the same, 9.

Thus, the mixed fraction is $11\frac{1}{9}$.

(f) $\frac{39}{13}$: We divide 39 by 13.

$$13\overline{)39}\ 3,\quad -39,\quad 0$$

In the division, quotient 3 is whole number.
Therefore, answer is 3.

(g) $\frac{85}{12}$: We divide 85 by 12.

$$12\overline{)85}\ 7,\quad -84,\quad 1$$

In the division, quotient 7 is whole number, remainder 1 is numerator and denominator remains the same, 12.

Thus the mixed fraction is $7\frac{1}{12}$.

(h) $\frac{125}{15}$: We divide 125 by 15.

$$15\overline{)125}\ 8,\quad -120,\quad 5$$

In the division, quotient 8 is whole number, remainder is numerator and denominator remains the same 15.
Thus, the mixed fraction is $8\frac{5}{15} = 8\frac{1}{3}$.

(i) $\frac{120}{11}$: We divide 120 by 11.

$$11\overline{)120}\ 10,\quad -11,\quad 10$$

In the division quotient 10 is whole number, remainder 10 is numerator and denominator remains the same, 11.
Thus, the mixed fraction is $10\frac{10}{11}$

(j) $\frac{19}{9}$: We divide 19 by 9.

$$9\overline{)19}\ 2,\quad -18,\quad 1$$

In the division, quotient 2 is whole number, remainder 1 is numerator and denominator remains the same, 9.

Thus, the mixed fractions is $2\frac{1}{9}$.

3. Convert the following mixed fractions into improper fractions :

(a) $3\frac{2}{7}$: First, we multiply the whole number 3 with the denominator 7.

$3 \times 7 = 21$
Then, we add numerator 2 to the above product.
$21 + 2 = 23$
The above sum 23 is the numerator and denominator remains the same, 7.
Thus, improper fraction is $\frac{23}{7}$.

(b) $1\frac{3}{5}$: First, we multiple whole number 1 with the denominator 5.
$1 \times 5 = 5$
Then, we add numerator 3 to the above product.
$5 + 3 = 8$
The above sum 8 is the numerator and denominator remains the same, 5.

Thus, the improper fraction is $\frac{8}{5}$.

(c) $4\frac{7}{8}$: First, we multiply the whole number 4 with the denominator 8.
$4 \times 8 = 32$
Then we add numerator 7 to the above product.
$32 + 7 = 39$
The above sum 39 is the numerator and denominator remains the same, 8.

Thus, the improper fraction is $\frac{39}{8}$.

(d) $5\frac{5}{11}$: First we multiply the whole number 5 with the denominator 11.
$5 \times 11 = 55$
Then, we add numerator 5 to the above product.
$55 + 5 = 60$
The above sum 60 is the numerator and denominator remains the same,11.

Thus, the improper fraction is $\frac{60}{11}$.

(e) $10\frac{5}{9}$: First we multiply the whole number 10 with the denominator 9.
$10 \times 9 = 90$
Then, we add numerator 5 to the above product.
$90 + 5 = 90$
The above sum 95 is the numerator and denominator remains the same, 9.

Thus, the improper fraction is $\frac{95}{9}$.

(f) $12\frac{8}{9}$: First we multiply the whole number 12 with the denominator 9.
$12 \times 9 = 108$
Then, we add numerator 8 to the above product. $108 + 8 = 116$
The above sum 116 is the numerator and denominator remains the same, 9.

Thus, the improper fraction is $\frac{116}{9}$.

(g) $8\frac{4}{15}$: First we multiply the whole number 8 with the denominator 15.
$8 \times 15 = 120$
Then, we add numerator 4 to the above product.
$120 + 4 = 124$
The above sum 124 is the numerator and denominator remains the same, 15.

Thus, the improper fraction is $\frac{124}{15}$.

(h) $2\frac{11}{13}$: First, we multiply the whole number 2 with the denominator 13.
Then, we add numerator 11 to the above product.
$26 + 11 = 37$
The above sum 37 is the numerator and denominator remains the same, 13.

Thus, the improper fraction is $\frac{37}{13}$.

(i) $10\frac{4}{17}$: First, we multiply the whole number 10 with the denominator 17.
$10 \times 17 = 170$
Then, we add numerator 4 to the above product.
$170 + 4 = 174$
The above sum 174 is the numerator and denominator remains the same, 17.

Thus, improper fraction is $\frac{174}{17}$.

(j) $2\frac{12}{23}$: First, we multiply the whole number 2 to the denominator 23.
$2 \times 23 = 46$
Then, we add numerator 12 to the above product.
$46 + 12 = 58$
The above sum 58 is numerator and denominator remains the same, 23.

Thus, the improper fraction is $\frac{58}{23}$.

Exercise 8.8

Solve the following word problems :

1. Meera's mother gave her money = 1 (a whole)

She spent of it = $\frac{2}{5}$

Money left with Meera = $1 - \frac{2}{5} = \frac{5-2}{5} = \frac{3}{5}$

So, $\frac{3}{5}$ of the money is left with Meera.

2. Smita used to make a napkin = $\frac{1}{6}$ of the cloth.

She used to make a dress = $\frac{4}{6}$ of the cloth

Totally she used $\frac{1}{6} + \frac{4}{6} = \frac{1+4}{6} = \frac{5}{6}$ of the cloth.

Therefore, Simta used $\frac{5}{6}$ of the cloth.

3. Tina ate in the morning = $\frac{1}{6}$ of the chocolate

She ate in the evening = $\frac{2}{6}$ of the chocolate

Totally, she ate $\frac{1}{6} + \frac{2}{6} = \frac{1+2}{6} = \frac{3}{6} = \frac{1}{2}$ of the chocolate.

4. Vikas read an Monday $\frac{4}{9}$ of the book.

He read on Tuesday $\frac{3}{9}$ of the book.

So, he read more on Monday than Tuesday of the book.

$\frac{4}{9} - \frac{3}{9} = \frac{4-3}{9} = \frac{1}{9}$

Vikas read $\frac{1}{9}$ more on Monday than Tuesday.

5. The cost of camera = $\frac{3}{7}$ of the money

The cost of cellphone = $\frac{2}{7}$ of the money

Difference between the cost of camera and the cost of cello phone $\frac{3}{7} - \frac{2}{7} = \frac{3-2}{7} = \frac{1}{7}$;

Therefore the camera costs $\frac{1}{7}$ more than the cost of the cellphone.

6. Mohit has read $\frac{1}{4}$ of 60 pages

$= 1 \times (60 \div 4)$ pages

$= 1 \times 15 = 15$ pages

Therefore, Mohit has read 15 pages of the book.

7. The book has 55 pages. Sania has read 32 pages

So, the number of pages left = $55 - 32 = 23$ pages

Here, 55 is denominator and 23 is numerator.

Therefore $\frac{23}{55}$ pages are left for Sania to read.

Revision

1. Find out equivalent fraction of each of the following :

(a) $\frac{7}{8} = \frac{7 \times 2}{8 \times 2} = \frac{14}{16}$; an equivalent fractions of $\frac{7}{8}$ is $\frac{14}{16}$.

(b) $\frac{3}{4} = \frac{3 \times 2}{6 \times 2} = \frac{6}{8}$; an equivalent fraction of $\frac{3}{4}$ is $\frac{6}{8}$.

(c) $\frac{5}{6} = \frac{5 \times 2}{6 \times 2} = \frac{10}{12}$; an equivalent fraction of $\frac{5}{6}$ is $\frac{10}{12}$.

(d) $\frac{20}{35} = \frac{20 \times 2}{35 \times 2} = \frac{40}{70}$; an equivalent fraction of $\frac{20}{35}$ is $\frac{40}{70}$.

(e) $\frac{12}{20} = \frac{12 \times 2}{20 \times 2} = \frac{24}{40}$; an equivalent fraction of $\frac{12}{20}$ is $\frac{24}{40}$.

(f) $\frac{18}{21} = \frac{18 \times 2}{21 \times 2} = \frac{36}{42}$; an equivalent fraction of $\frac{18}{21}$ is $\frac{36}{42}$.

2. Build equivalent fractions to the 5th place for each of the following :

(a) $\frac{5}{9}, \left(\frac{5 \times 2}{9 \times 2}\right) = \frac{10}{18}, \left(\frac{5 \times 3}{9 \times 3}\right) = \frac{15}{27}, \left(\frac{5 \times 4}{9 \times 4}\right) = \frac{20}{36}, \left(\frac{5 \times 5}{9 \times 5}\right) = \frac{25}{45}$

(b) $\frac{9}{11}, \left(\frac{9 \times 2}{11 \times 2}\right) = \frac{18}{22}, \left(\frac{9 \times 3}{11 \times 3}\right) = \frac{27}{33}, \left(\frac{9 \times 4}{11 \times 3}\right) = \frac{36}{44}, \left(\frac{9 \times 5}{11 \times 5}\right) = \frac{45}{55}$,

3. Change the following fractions into whole numbers :

(a) $\frac{42}{6} = (42 \div 6) = 7$ (b) $\frac{104}{13} = (104 \div 13) = 8$

(c) $\frac{96}{12} = (96 \div 12) = 8$ (d) $\frac{81}{9} = (81 \div 9) = 9$

4. Change the following improper fractions into mixed fractions :

(a) $\frac{17}{3}$: We divide the numerator 17 by denominator 3.

$$3\overline{)17}\ 5,\quad -15,\quad 2$$

In the division, quotient 5 is whole number, remainder 2 is numerator and the denominator remains the same, 3.

Thus, the mixed fraction is $5\frac{2}{3}$.

(b) $\frac{23}{5}$: We divide the numerator 23 by denominator 5.

$$5\overline{)23}\ 4,\quad -20,\quad 3$$

In the division, quotient 4 is whole number, remainder 3 is numerator and the denominator remains the same, 5.

Thus, the mixed fractions is $4\frac{3}{5}$.

(c) $\frac{33}{10}$: We divide the numerator 33 by denominator 10.

$$10\overline{)33}\ 3,\quad -30,\quad 3$$

In the division, quotient 3 is whole number, remainder 3 is numerator and the denominator remains the same, 10.

Thus, the mixed fraction is $3\frac{3}{10}$.

(d) $\frac{41}{9}$: We divide the numerator 41 by denominator 9.

$$9\overline{)41}\ 4,\quad -36,\quad 5$$

In the division, quotient 4 is whole number, remainder 5 is numerator and the denominator remains the same, 9.

Thus, the mixed number is $4\frac{5}{9}$.

5. Change the following mixed fractions into improper fractions :

(a) $2\frac{3}{5}$: First, we multiply the whole number 2 with the denominator.
$2 \times 5 = 10$
Then, we add numerator 3 to the above product.
$10 + 3 = 13$
The above sum 13 is numerator and denominator remains the same, 5.

Thus, the improper fraction is $\frac{13}{5}$.

(b) $4\frac{5}{6}$: First, we multiply the whole number 4 with the denominator 6.
$4 \times 6 = 24$
Then, we add numerator 5 to the above product.
$24 + 5 = 29$

The above sum 29 is numerator and denominator remains the same, 6.

Thus, the fraction is $\frac{29}{6}$.

(c) $5\frac{2}{7}$: First, we multiply the whole number 5 with the denominator 7.
$5 \times 7 = 35$
Then, we add numerator 2 to the above product.
$35 + 2 = 37$

The above sum 37 is numerator and denominator remains the same, 7.

Thus, the improper fraction is $\frac{37}{7}$

(d) $7\frac{4}{9}$: First we multiply the whole number 7 with the denominator 9.
$7 \times 9 = 63$
Then, we add numerator to the above product.
$63 + 4 = 67$
The above sum 67 is numerator and denominator remains the same, 9.

Thus, the improper fraction is $\frac{67}{9}$.

6. Compare the following pairs of fractions and put a sign of >, < or = :

[Hint : If the denominator are same and numerator differ from each other, then the fractions with greater numerator will be greater.]

(a) $\frac{6}{7} \boxed{>} \frac{5}{7}$ (b) $\frac{3}{5} \boxed{<} \frac{4}{5}$

(c) $\frac{3}{7} \boxed{<} \frac{4}{7}$ (d) $\frac{5}{9} \boxed{=} \frac{5}{9}$

7. Reduce each of the following fractions to lowest terms :

(a) $\frac{35}{60} = \frac{35 \div 5}{60 \div 5} = \frac{7}{12}$ (b) $\frac{12}{72} = \frac{12 \div 12}{72 \div 12} = \frac{1}{6}$

(c) $\frac{15}{39} = \frac{15 \div 3}{39 \div 3} = \frac{5}{13}$ (d) $\frac{24}{54} = \frac{24 \div 6}{54 \div 6} = \frac{4}{9}$

8. Add or subtract and reduce to the lowest terms :

(a) $\frac{6}{7} + \frac{5}{7} = \frac{6+5}{7} = \frac{11}{7}$

(b) $\frac{9}{10} - \frac{3}{10} = \frac{9-3}{10} = \frac{6}{10} = \frac{6 \div 2}{10 \div 2} = \frac{3}{5}$

(c) $\frac{11}{15} + \frac{4}{15} = \frac{11-4}{15} = \frac{15}{15} = \frac{15 \div 15}{15 \div 15} = \frac{1}{1} = 1$

(d) $\frac{8}{9} - \frac{5}{9} = \frac{8-5}{9} = \frac{3}{9} = \frac{3 \div 3}{9 \div 3} = \frac{1}{3}$

(e) $\frac{1}{3} + 1\frac{1}{3} = \frac{1}{3} + \frac{4}{3} = \frac{7}{3}$

(f) $1\frac{1}{4} + 2\frac{3}{4} = \frac{5}{4} + \frac{11}{4} = \frac{5+11}{4} = \frac{16}{4} = \frac{16 \div 4}{16 \div 4} = \frac{4}{1} = 4$

(g) $\frac{2}{6} + \frac{5}{6} = \frac{2+5}{6} = \frac{7}{6} = 1\frac{1}{6}$

(h) $\frac{5}{8} - \frac{1}{8} = \frac{5-1}{8} = \frac{4}{8} = \frac{4 \div 4}{8 \div 4} = \frac{1}{2}$

(i) $1\frac{1}{10} + \frac{7}{10} = \frac{11}{10} + \frac{7}{10} = \frac{11+7}{10} = \frac{18}{10} = \frac{18 \div 2}{10 \div 2} = \frac{9}{5} = 1\frac{4}{5}$

(j) $\frac{11}{12} - \frac{3}{12} = \frac{11-3}{12} = \frac{8}{12} = \frac{8 \div 4}{12 \div 4} = \frac{2}{3}$

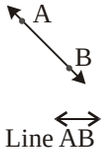
(k) $\frac{2}{7} + \frac{4}{7} = \frac{2+4}{7} = \frac{6}{7}$

(l) $2\frac{1}{4} - 1\frac{2}{4} = \frac{9}{4} - \frac{6}{4} = \frac{9-6}{4} = \frac{3}{4}$

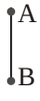
9 Geometry

Exercise 9.1

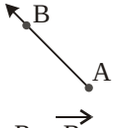
1. Mark points and name these figures :

(a) 

Line $\overleftrightarrow{AB}$

(b) 

Line segment $\overline{AB}$

(c) 

Ray $\overrightarrow{B}$

2. Write the difference between the following :

(a) Difference between a line and a line segment :

A collection of points along a straight path that can be extended to any length on both sides is called a line. A line cannot be measured.

Whereas, a portion of a line is called a line segment that has two end points and it can be measured.

(b) **Difference between a line and a ray :**

A line has no end points and it can be extended to any length on both sides. Whereas, a ray is a part of a line that has only one end point and it can be extended indefinitely only in one direction.

(c) **Difference between a ray and a line segment :**

A ray is a part of a line that has only one end point and it can be extended indefinitely in one direction. Where as, a line segment is a portion of a line that has two end points and it cannot be extended in any direction.

3. Fill in the blanks :

(a) line (b) two (c) ray

4. (a) AB = 3 cm PQ = 5 cm AB < PQ

(b) RS = 5 cm XY = 4 cm RS > XY

5. Do yourself.

6. 12

7. Do yourself.

Exercise 9.2

1. In the given figures :

(a) EDF (b) Arms DE and DF (c) D

2. Figure (b) represents an angle.

3. Do yourself .

4. In the given figure :

(a) A, B (b) X, Y

Exercise 9.3

1. Tick (✓) the open and cross (✗) the closed shapes in the figures :

(a) ✗ (b) ✗ (c) ✓ (d) ✗ (e) ✓

2. Colour the polygons blue :

Colour (d) and (e) blue.

3. Say whether true (T) or false (F) :

(a) T (b) F (c) T

4. Do yourself.

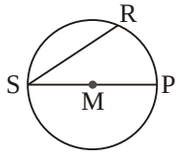
Exercise 9.4

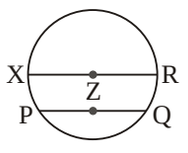
1. Name the parts of the circle shown on the right :

Fill in the blanks :

(a) O (b) OR (c) diameter (d) chord

2. In the circle given below, draw the following :

(a) 

(b) 

3. Find the radius of the circles having the diameters given below :

[Hint : Radius = $\frac{1}{2}$ Diameter]

(a) Radius $\left(\frac{1}{2} \times 10\right)$ cm = 5 cm

(b) Radius $\left(\frac{1}{2} \times 6\right)$ m = 3 m

(c) Radius $\left(\frac{1}{2} \times 50\right)$ cm = 25 cm

(d) Radius $\left(\frac{1}{2} \times 18\right)$ m = 9 cm

(e) Radius $\left(\frac{1}{2} \times 42\right)$ cm = 21 cm

4. Find the diameters of the circles having the following radius :

[Hint : Diameter = 2 × Radius]

(a) Diameter = (2 × 18) cm = 36 cm
(b) Diameter = (2 × 12) cm = 24 cm
(c) Diameter = (2 × 5) m = 10 m
(d) Diameter = (2 × 22) m = 44 m
(e) Diameter = (2 × 15) cm = 30 cm

5. Use a ruler and measure the radius of the following circles :

(a) OA = 1 cm OM = 1.2 cm ON = 1.5 cm
Diameter = (2 × 1) cm, Diameter = (2 × 1.2) cm,
Diameter = (2 × 1.5) cm
= 2 cm = 2.4 cm = 3 cm

6. Do yourself.

7. Write 'T' for true or 'F' for false statements :

(a) F (b) T (c) F (d) T

8. (a) Diameter of the bangle = 2 × radius = (2 × 3) cm
= 6 cm

(b) Diameter of the swimming pool = 24 m

Radius of the swimming pool = $\frac{1}{2}$ Diameter
= $\left(\frac{1}{2} \times 24\right)$ m
= 12 m

Exercise 9.5

1. Put a tick (✓) on the figures which are symmetrical :

(a) (b) (e)

2. Is the dotted line the line of symmetry ? Write 'Y' if yes and 'N' if no :

(a) Y (b) N (c) N (d) N
(e) Y (f) Y (g) Y (h) Y

3. Draw the line of symmetry for each of the following :

(a) (b) (c) (d) (e)

4. Are the figures given below examples of reflection :

(a) Yes (b) Yes (c) No (d) Yes

5. Draw the mirror image of each of the following :

(a) (b) (c) (d)

Exercise 9.6

A. Put a tick () under the top view of the object given on the left :

1. (c) **2.** (b) **3.** (b) **4.** (c)

B. Put a tick under the side view of the object given on the left :

1. (c) ✓ **2.** (b) ✓

Revision

1. Find the diameters of the circles whose radius are :

[Hint : Diameter = 2 × Radius]

(a) Diameter = (2 × 16) cm = 32 cm
(b) Diameter = (2 × 25) cm = 50 cm
(c) Diameter = (2 × 30) cm = 60 cm
(d) Diameter = (2 × 50) cm = 100 cm
(e) Diameter = (2 × 70) cm = 140 cm

2. Find the radius of the circles whose diameters are :

[Hint : Radius = $\frac{1}{2}$ × Diameter]

(a) Radius $\left(\frac{1}{2} \times 10\right)$ cm = 5 cm

(b) Radius $\left(\frac{1}{2} \times 14\right)$ cm = 7 cm

(c) Radius $\left(\frac{1}{2} \times 18\right)$ cm = 9cm

(d) Radius $\left(\frac{1}{2} \times 20\right)$ m = 10 cm

(e) Radius $\left(\frac{1}{2} \times 100\right)$ cm = 50 cm

3. Draw the line of symmetry in each of the following letters :

A B C D
E H M T

4. Draw the other half of the following figures so that they are symmetrical and colour the shapes also :

5. Draw the mirror images of the following :

6. Put a tick (✓) under the side view for the figures given on the left :

(a) (iii) ✓ (b) (ii) ✓

Exercise 10.1

1. Find the perimeter of the figures in the grid. Suppose, each side of a square is 1 cm :

(a) Perimeter = (4 + 1 + 4 + 1) cm = 10 cm
(b) Perimeter = (2 + 5 + 5 + 4 + 3 + 1) cm = 20 cm
(c) Perimeter = (4 + 1 + 3 + 2 + 3 + 1 + 4 + 4) cm = 22 cm
(d) Perimeter = (1+1+3+2+6+1+1+1+1+1) cm = 18 cm
(e) Perimeter = (3+1+2+1+2+1+1+1) cm = 12 cm
(f) Perimeter = (3 + 4 + 3 + 4) cm = 14 cm
(g) Perimeter = (2 + 3 + 2 + 2 + 2 + 4 + 2 + 1) cm = 18 cm
(h) Perimeter = (2 + 1 + 1 + 1 + 1 + 2 + 2 + 1 + 1 + 2 + 1 + 1) cm = 16 cm

2. Find the perimeter of the following figures :

(a) Perimeter = (19 + 11 + 11 + 19 + 16) m = 76 m
(b) Perimeter = (10 + 10 + 12 + 10 + 10 + 12) m = 64 m
(c) Perimeter = (5 + 5 + 5 + 3 + 4) m = 22 m
(d) Perimeter = (6 + 4 + 7 + 8 + 2 + 3) m = 30 m

3. Find the perimeter :

(a) Perimeter = (300 + 300 + 800 + 300 + 300 + 300 + 800 + 300) m
= 3400 m
Perimeter = 3 km 400 m
(b) Perimeter = (30 + 35 + 10 + 15 + 10 + 15 + 10 + 35) cm
= 160 cm
Perimeter = 1 m 60 cm

4. Find the perimeter :

(a) Length of rectangle = 200 m,
Breadth of rectangle = 150 m
So, perimeter of rectangle = (200 + 150 + 200 + 150) m
= 700 m

(b) Sides of the triangle are 256 cm, 300 cm and 435 cm.
So, perimeter of triangle = (256 + 300 + 435) cm = 991 cm

```
  2 5 6
  3 0 0
+ 4 3 5
  9 9 1
```

(c) Sides of the square are 30 m each.
So, perimeter of square = (30 + 30 + 30 + 30) m = 120 m

5. The side of the square field = 24 m
So, perimeter of the square field = (24 + 24 + 24 + 24) m = 96 m
Wire needed to fence the square field = Perimeter of the square field = 96 m
Therefore, 96 m wire will be needed to fence the square field.

6. Length of rectangular park = 86 m
Breadth of rectangular park = 64 m
So, perimeter of the park = (86 + 64 + 86 + 64) m = 300 m
The boy runs 2 times around the park = 2 × perimeter of the park = (2 × 300) m = 600 m
Therefore, the distance covered by the boy is 600 m.

7. Rahul bought a card of 6 cm by 3 cm. Rohit bought a card of 8 cm by 2 cm.
[Hint : The shape of cards are rectangular.]
Perimeter of Rahul's card = (6 + 3 + 6 + 3) cm = 18 cm
Perimeter of Rohit's card = (8 + 2 + 8 + 2) cm = 20 cm
Comparing the perimeters of the two card

(a) 20 cm > 18 cm
Therefore, Rohit's card has a bigger perimeter.
(b) The difference in the perimeters of the two cards = 20 cm – 18 cm = 2 cm

8. Neha wants to lace around a bed sheet of the given size. She bought a 20 m roll of lace. Find :

Perimeter of the bed sheet

m	cm	
2	5 0	= 2 m 50 cm + 3 m 50 cm + 2 m
3	5 0	= 50 cm + 3 m 50 cm
+ 2	5 0	= 12 m
3	5 0	
12	0 0	

(a) Lace used for one bed sheet = Perimeter of bed sheet
Therefore, 12 m lace is used for one bed sheet.
(b) The lace left in the roll = Lace in the roll – Lace used
= 20 m – 12 m
= 8 m
Therefore, 8 m lace will be left in the roll.

9. Length of the playground = 100 m
Breadth of the playground = 50 m
So, perimeter of the playground = (100 + 50 + 100 + 50) m
= 300 m
Wire needed to fence the playground = (3 × 300) m
= 900 m
Length of wire the school authorities have = 800 m
So, more wire needed to fence the playground 3 times
= (900 – 800) m
= 100 m
Therefore, 100 m more wire is needed to fence the playground 3 times.

Exercise 10.2

1. Do yourself.

2. Find the area of the following figures if each side of a small square measures 1 cm :

(a) Area of one small square = (1 × 1) sq cm
= 1 sq cm
There are 20 small squares in the figure.
Therefore, the area of the figure = (20 × 1) sq cm
= 20 sq cm
(b) Area of one small square = (1 × 1) sq cm
= 1 sq cm
There are 25 small squares in the figure.
Therefore, the area of the figure = (25 × 1) = 25 sq cm.

3. Do yourself.

Exercise 11.1

1. Convert the following into metres :

We have, 1 km = 1000 m, so

(a) 7 km = 7 × 1000 m = 7000 m

(b) 6 km 225 m = 6 × 1000 m + 225 m
= 6000 m + 225 m
= 6225 m

(c) 8 km 105 m = 8 × 1000 m + 105 m
= 8000 m +105 m
= 8105 m

(d) 9 km 205 m = 9 × 1000 m + 205 m
= 9000 m + 205 m
= 9205 m

(e) 2 km 95 m = 2 × 1000 m + 95 m
= 2000 m + 95 m
= 2095 m

(f) 10 km 50 m = 10 × 1000 m + 50 m
= 10000 m + 50 m
= 10050 m

2. Convert the following into centimetres :

We have, 1 m = 100 cm, so

(a) 6 m = 6 × 100 cm = 600 cm

(b) 7 m 25 cm = 7 × 100 cm + 25 cm
= 700 cm + 25 cm
= 725 cm

(c) 8 m 12 cm = 8 × 100 cm + 12 cm
= 800 cm + 12 cm
= 812 cm

(d) 10 m 56 cm = 10 × 100 cm + 56 cm
= 1000 cm + 56 cm
= 1056 cm

(e) 21 m 8 cm = 21 × 100 cm + 8 cm
= 2100 cm + 8 cm
= 2108 cm

(f) 15 m 6 cm = 15 × 100 cm + 6 cm
= 1500 cm + 6 cm
= 1506 cm

3. Convert the following into millimetres :

We have, 1 cm = 10 mm

(a) 8 cm = 8 × 10 mm = 80 mm

(b) 83 cm 2 mm = 83 × 10 mm + 2 mm
= 830 mm + 2 mm
= 832 mm

(c) 12 cm 4 mm = 12 × 10 mm + 4 mm
= 120 mm + 4 mm
= 124 mm

(d) 15 cm = 15 × 10 mm = 150 mm

(e) 10 cm 5 mm = 10 × 10 mm + 5 mm
= 100 mm + 5 mm
= 105 mm

(f) 20 cm 6 mm = 20 × 10 mm + 6 mm
= 200 mm + 6 mm
= 206 mm

4. Convert the following into centimetres and millimetres :

We have, 1 mm = 1/10 cm, so

(a) 70 mm = (70 ÷ 10) cm = 7cm

(b) 76 mm = 70 mm + 6 mm
= (70 ÷ 10) cm + 6 mm
= 7 cm + 6 mm = 7 cm 6mm

(c) 85 mm = 80 mm + 5 mm
= (80 ÷ 10) cm + 5 mm
= 8 cm + 5mm = 8 cm 5 mm

(d) 62 mm = 60 mm + 2 mm
= (60 ÷ 10) cm + 2 mm
= 6cm + 2 mm = 6 cm 2 mm

(e) 100 mm = (100 ÷ 10) cm = 10 cm

(f) 126 mm = 120 mm + 6 mm
= (120 ÷ 10) cm + 6 mm
= 12 cm + 6 mm = 12 cm 6 mm

5. Convert the following into metres and centimetres :

We have, 1 cm = 1/100 m, so

(a) 600 cm = (600 ÷ 100) m = 6 m

(b) 726 cm = 700 cm + 26 cm
= (700 ÷ 100) m + 26 cm
= 7 m + 26 cm = 7 m 26 cm

(c) 682 cm = 600 cm + 82 cm
= (600 ÷ 100) m + 82 cm
= 6 m + 82 cm = 6 m 82 cm

(d) 1000 cm = (1000 ÷ 100) m = 10 m

(e) 1265 cm = 1200 cm + 65 cm
= (1200 ÷ 100) m + 65 cm
= 12 m + 65 cm = 12 m 65 cm

(f) 1503 cm = 1500 cm + 3 cm
= (1500 ÷ 100) m + 3 cm
= 15 m + 3 cm = 15 m 3 cm

6. Convert the following into kilometres and metres :

We have, 1 m = 1/1000 km, so

(a) 8000 m = (8000 ÷1000) km = 8 km

(b) 7095 m = 7000 m + 95 m
= (7000 ÷ 1000) km + 95 m
= 7 km + 95 m = 7km 95 m

(c) 6845 m = 6000 m + 845 m
= (6000 ÷ 1000) km + 845 m
= 6 km + 845 m = 6 km 845 m

(d) 8790 m = 8000 m + 790 m
= (8000 ÷ 1000) km + 790 m
= 8 km + 790 m = 8 km 790 m

(e) 15785 m = 15000 m + 785 m
= (15000 ÷ 1000) km + 785 m
= 15 km + 785 m = 15 km 785 m

(f) 20495 m = 20000 + 495 m
= (20000 ÷1000) km + 495 m
= 20 km + 495 m = 20 km 495 m

Exercise 11.2

1. Add :

(a)

km	m	cm
54	275	92
76	809	65
+ 5	078	09
136	163	66

(b)

km	cm	mm
105	72	9
264	38	7
+ 68	54	4
438	66	0

2. Write in vertical form and find the sum of the following :

(a)

km	m
725	620
105	287
+ 218	162
1049	069

(b)

km	m
375	105
110	075
+ 687	321
1172	501

(c)

km	m	cm
45	282	25
+ 38	710	95
83	993	20

(d)

km	m
525	25
275	95
+ 162	76
963	96

(e)

km	m
308	09
254	62
+ 72	85
635	56

(f)

m	cm	mm
180	25	9
305	78	6
+ 486	04	5

3. Find the difference :

(a)

km	m
218	215
− 109	786
108	429

(b)

km	m
102	045
− 78	056
23	989

(c)

km	m	m
125	08	6
− 96	79	8
28	28	8

4. Subtract by writing in vertical form :

(a)

km	m
48	321
− 35	289
13	032

(b)

km	m
100	000
− 85	785
14	215

(c)

km	m
804	187
− 625	296
178	891

(d)

m	cm
200	00
− 185	56
14	44

(e)

m	cm	mm
70	28	7
− 65	85	9
4	42	8

(f)

km	m	cm	mm
30	000	95	9
− 26	289	80	6
3	711	15	3

5.

		m	m
The length of electric wire	=	130	00
The length of its piece	=	− 18	75
The length of wire left	=	111	25

The length of wire left in the roll is 111 m 25 cm.

6.

		km	m
Traveling on the first day	=	56	525
Traveling on the second day	=	45	265
Traveling on the third day	=	+ 38	285
Total distance covered	=	140	075

The total distance covered by Mr Vema and his family was 140 km 75 m.

7.

		km	m
The distance from Delhi to Chandigarh	=	250	000
Mrs Pinto has covered the distance	=	− 178	575
More distance he need to travel	=	71	425

Mr. Pinto needs to travel 71 km 425 m.

8.

		km	m	cm
Anil ran	=	1	250	35
Anju ran	=	2	325	65
Amar ran	=	+ 3	175	22
Total distance they covered	=	6	751	22

The total distance they covered altogether was 6 km 751 m 22 cm.

Exercise 11.3

1. Convert into lower units :

We have, 1 kg = 1000 g, so

(a) 12 kg = (12 × 1000) g = 12000 g

(b) 15 kg =(15 × 1000) g = 15000 g

(c) 25 kg 450 g = (25 × 1000) g + 450 g
= 25000 g + 450 g = 25450 g

(d) 20 kg 275 g = (20 × 1000) g + 275 g
= 20000 g + 275 g =20275 g

(e) 65 kg 145 g = (65 × 1000) g + 145 g
= 65000 g + 145 g = 65145 g

(f) 30 kg 110 g = (30 × 1000) g + 110 g
= 30000 g + 110 g = 30110 g

(g) 19 kg 54 g = (19 × 1000) g + 54 g
= 19000 g + 54 g = 19054 g

(h) 20 kg 50 g = (20 × 1000) g + 50 g
= 20000 g + 50 g = 20050 g

2. Convert into higher units :

We have, 1 g = 1/1000 kg, so

(a) 7000 g = (7000 ÷ 1000) kg = 7 kg

(b) 6298 g = (6298 ÷ 1000) kg = 6 kg 298 g

(c) 13275 g = (13275 ÷ 1000) kg = 13 kg 275 g

(d) 25064 g = (25064 ÷ 1000) kg = 25 kg 64 g

(e) 54197 g = (54197 ÷ 1000) kg = 54 kg 197 g

(f) 18079 g = (18079 ÷ 1000) kg = 18 kg 79 g

(g) 62870 g = (62870 ÷ 1000) kg = 62 kg 870 g

(h) 30075 g = (30075 ÷ 1000) kg = 30 kg 75 g

Exercise 11.4

1. Find the sum :

(a)

kg	g
610	156
285	487
+ 185	511
1081	154

(b)

kg	g
450	350
125	487
+ 267	518
843	355

(c)

kg	g
205	610
517	085
+ 368	218
1090	913

2. Write in vertical form and find the sum of the following :

(a)

kg	g
32	195
248	687
+ 358	275
639	157

(b)

kg	g
145	528
56	075
+ 310	480
512	083

(c)

kg	g
708	058
217	120
+ 85	085
1010	263

(d)

kg	g
925	625
218	385
+ 87	095
1231	105

3. Find the difference :

(a)

kg	g
250	725
−187	486
63	239

(b)

kg	g
375	250
−189	469
185	781

(c)

kg	g
500	000
−275	585
224	415

4. Write in vertical form and subtract :

(a)

kg	g
780	125
−625	280
154	845

(b)

kg	g
400	105
−385	000
15	105

(c)

kg	g
200	800
−195	725
5	075

(d)

kg	g
500	000
−464	090
35	910

5.

		kg	g
Sweets sold on Monday	=	20	250
Sweets sold on Tuesday	=	35	625
Sweets sold on Wednesday	=	+50	000
		105	875

The total amount of sweets sold on all three days is 105 kg 875 g.

6.

		kg	g
The weight of sack of potatoes	=	56	000
The weight of potatoes taken out of it	=	−28	750
The balance the weight of potatoes in the sack	=	27	250

The weight of potatoes in the sack now is 27 kg 250 g.

7.

		kg	g
Avni's weight	=	21	325
Her sister's weight	=	−17	687
Difference in their weights	=	3	638

Avni's weight is more and by 3 kg 638 g.

8.

		kg	g
Varun's weight now	=	58	215
He gained to get it	=	− 2	775
So, his earlier weight was	=	55	440

Varun's earlier weight was 55 kg 440 g.

Exercise 11.5

1. Convert into lower units :

We have, 1 l = 1000 *ml*, so

(a) $6\,l = (6 \times 1000)\,ml = 6000\,ml$

(b) $7\,l\,250\,ml = (7 \times 1000)\,ml + 250\,ml$
$= 7000\text{ ml} + 250\,ml$
$= 7250\,ml$

(c) $12\,l = (12 \times 1000)\,ml = 12000\,ml$

(d) $15\,l\,105\,ml = (15 \times 1000)\,ml + 105\,ml$
$= 15000\,ml + 105\,ml$
$= 15105\,ml$

(e) $10\,l\,450\,ml = (10 \times 1000)\,ml + 450\,ml$
$= 10000\,ml + 450\,ml$
$= 10450\,ml$

(f) $20\,l = (20 \times 1000)\text{ ml} = 20000\text{ ml}$

(g) $19\,l\,725\,ml = (19 \times 1000)\text{ ml} + 725\text{ ml}$
$= 19000\,ml + 725\,ml$
$= 19725\,ml$

(h) $15\,l\,25\,ml = (15 \times 1000)\,ml + 25\,ml$
$= 15000\,ml + 25\,ml$
$= 15025\,ml$

2. Convert into higher units :

We have, $1\,ml = \frac{1}{100}\,l$, so

(a) $3000\,ml = (3000 \div 1000)\,l = 3\,l$

(b) $8000\,ml = (8000 \div 1000)\,l = 8\,l$

(c) $2875\,ml = (2875 \div 1000)\,l = 2\,l\,875\,ml$

(d) $3805\,ml = (3805 \div 1000)\,l = 3\,l\,805\,ml$

(e) $16240\,ml = (16240 \div 1000)\,l = 16l\,240\,ml$

(g) $7000\,ml = (7000 \div 1000)\,l = 7\,l$

(g) $35065\,ml = (35065 \div 1000)\,l = 35\,l\,65\,ml$

(h) $82458\,ml = (82458 \div 1000)\,l = 82\,l\,458\,ml$

Exercise 11.6

1. Find the sum :

(a)

l	ml
25	375
+18	487
43	862

(b)

l	ml
125	205
276	389
+85	075
486	669

(c)

l	ml
318	450
75	025
+ 62	361
455	836

2. Write in vertical form and find the sum :

(a)

l	ml
27	315
+16	450
43	765

(b)

l	ml
152	408
78	365
+ 39	270
270	043

(c)

l	ml
248	105
362	087
+119	025
729	217

(d)

l	ml
562	000
256	105
+118	287
936	392

3. Write in vertical from and subtract :

(a)

l	ml
20	300
−19	256
1	044

(b)

l	ml
45	000
−42	628
2	372

(c)

l	ml
500	925
− 325	785
175	140

(d)

l	ml
700	000
689	208
10	792

4. Find the difference :

(a)

l	*ml*
25	325
−16	414
8	911

(b)

l	*ml*
125	724
−108	085
17	639

(c)

l	*ml*
300	000
−189	745
110	255

5. Consumption of water by Mr. Sharma's family = 275 *l* 500 ml
Consumption of water by their neighbour = + 385 *l* 175 ml
Total consumption = 660 *l* 675 ml

Difference in consumption

	l	*ml*
=	385	175
= −	275	500
=	109	675

The total consumption of the two families per day is 660 *l* 675 ml. Mr Sharma's neighbor consumes more water and by 109 *l* 675 ml.

6.

		l	*ml*
Milk needed for the wedding	=	1000	000
The milk supply that came	=	− 289	250
The milk needed more	=	710	750

710 *l* 750 ml more milk is needed.

7.

		l	*ml*
The diesel bought by Sohan	=	90	500
The diesel that was used	=	−68	825
The diesel left in the bus	=	21	675

21 *l* 675 ml diesel is still left in the bus.

Revision

1. Fill in the blanks :

(a) 7 km 350 m = (7 × 1000) m + 350 m
= 7000 m + 350 m
= 7350 m

(b) 8 km = (8 × 1000) m = 8000 m

(c) 725 cm = (725 ÷ 100) m = 7 m 25 cm

(d) 6345 m = (6345 ÷ 1000) km = 6 km 345 m

(e) 56 mm = (56 ÷ 10) cm = 5 cm 6 mm

(f) 82 mm = (82 ÷ 10) cm = 8 cm 2 mm

(g) 12 kg = (12 × 1000) g = 12000 g

(h) 9 kg 175 g = (9 × 1000) g + 175 g
= 9000 g + 175 g = 9175 g

(i) 2875 g = (2875 ÷ 1000) kg = 2 kg 875 g

(j) 9075 g = (9075 ÷ 1000) kg = 9 kg 75 g

(k) 8 *l* = (8 × 1000) ml = 8000 ml

(l) 7 *l* 625 ml = (7 × 1000) ml + 625 ml
= 7000 ml + 625 ml = 7625 ml

(m) 2075 ml = (2075 ÷ 1000) l = 2 *l* 75 ml

(n) 12625 ml = (12625 ÷ 1000) l = 12 *l* 625 ml

(o) 1*l* 750 ml = (1 × 1000) ml + 750 ml
= 1000 ml + 750 ml = 1750 ml

(p) 1 kg 250 g = (1 × 1000) g + 250 g = 1250 g

2. Find the sum of the following :

(a)

km	m	cm
175	250	15
250	175	75
+ 315	485	36
740	911	26

(b)

kg	g
205	475
180	692
+ 27	005
413	172

(c)

l	ml
35	562
28	495
+17	010
81	067

3. Subtract :

(a)

m	cm	mm
10	00	1
− 7	25	9
2	74	1

(b)

kg	g
15	000
−12	526
2	474

(c)

l	*ml*
200	000
−175	695
24	305

4.

		kg	g
The weight of tomatoes	=	3	250
The weight of onions	=	5	750
The weight of potatoes	=	+ 7	125
Total weight	=	16	125

The total weight of Mrs Sen's vegetable shopping is 16 kg 125 g.

5.

		km	m
The total distance to be covered	=	175	000
The car had a break down after	=	−150	750
Distance left to be covered	=	24	250

24 km 250 m is left to be covered.

6.

		l	*ml*
The milk bought by Shweta in first week	=	15	250
The milk bought by Shweta in second week	=	+16	175
The total milk she bought	=	31	425

Shweta bought 31 *l* 425 ml milk in two weeks.

12 Money

Exercise 12.1

1. Find the total amount :

(a)
2 notes of 1000 ` (1000 × 2) = ` 2000
3 notes of 500 ` (500 × 3) = ` 1500
5 notes of 50 ` (50 × 5) = ` 250
Total Amount = ` 3750

(b)
4 notes of 500 ` (500 × 4) = ` 2000
3 notes of 100 ` (100 × 3) = ` 300
10 coins of 5 ` (5 × 10) = ` 50
Total amount = ` 2350

(c)
6 notes of 500 ` (500 × 6) = ` 3000
5 coins of 10 ` (10 × 5) = ` 50
20 coins of 5 ` (5 × 20) = ` 100
Total amount = ` 3150

(d)
50 notes of 20 ` (20 × 50) = ` 1000
12 notes of 10 ` (10 × 12) = ` 120
30 coins of 5 ` (5 × 30) = ` 150
20 coins of 1 ` (1 × 20) = ` 20
Total amount = ` 1290

(e) 14 notes of 500 ` (500 × 14) = ` 7000
12 notes of 100 ` (100 × 12) = ` 1200
10 notes of 10 ` (10 × 10) = ` 100
Total amount = ` 8300

(f) 80 notes of 100 ` (100 × 80) = ` 8000
50 notes of 10 ` (10 × 50) = ` 500
60 coins of 2 ` (2 × 60) = ` 120
80 coins of 1 ` (1 × 80) = ` 80
Total amount = ` 8700

2. Solve the following word problems :

(a) Aman put in his wallet :
2 notes of 1000 ` (1000 × 2) = ` 2000
4 notes of 500 ` (500 × 4) = ` 2000
6 notes of 100 ` (100 × 6) = ` 600
Total amount = ` 4600

So, total amount of money Aman have in his wallet is ` 4600.

(b) Meena brought :
6 notes of 10 ` (10 × 6) = ` 60
6 coins of 5 ` (5 × 6) = ` 30
Total amount = ` 90

The teacher asked to bring ` 100, but Meena brought ` 90. So, she did not carry enough money.

(c) Mandira had 10 notes of 100 ` (100 × 10) = ` 1000
Meenu had 20 notes of 50 ` (20 × 50) = ` 1000
So, both have equal money.

(d) In the box there are 100 coins.
Half of 100 coins = (100 ÷ 2) coins = 50 coins. So there are in the box :
50 coins of ` 5 = (5 × 50) = ` 250
50 coins of ` 2 = (2 × 50) = ` 100
= ` 350

Therefore, there are ` 350 in the box.

Exercise 12.2

1. Tick (✓) the correct answer :
We have ` 1 = 100 p.
So 265.05 = (265.05 × 100) p = 26505 p
So, answer (a) 26505 p is correct.

2. Convert the following rupees into paise :
We have ` 1 = 100 p, so
(a) ` 27.65 = (27.65 × 100) p = 2765 p
(b) ` 25 = (25 × 100) p = 2500 p
(c) ` 85.44 = (85.44 × 100) p = 8544 p
(d) ` 436.05 = (436.05 × 100) p = 43605 p

3. Convert the following paise into rupees :
We have, 1 p = ` 1/100, so
(a) 76 paise = (76 ÷ 100) = ` 0.76
(b) 1500 paise = (1500 ÷ 100) = ` 15
(c) 768 paise = (768 ÷ 100) = ` 7.68
(d) 6513 paise = (6513 ÷ 100) = ` 65.13

Exercise 12.3

1. Make the bill in each case and find the total money due in each bill :

(a)

Bill	
1 Football	` 96.75
1 Whistle	` 25.80
1 Cap	` 48.90
Total	` 171.45

The total money due in the bill is ` 171.45.

(b)

Bill	
1 Pencil box	` 12.45
1 Tiffin box	` 36.75
1 Water bottle	` 42.20
Note books	` 120.40
Total	` 211.80

The total money due in the bill is ` 211.80

(c)

Bill	
1 Kurta	` 245.60
1 Pyjama	` 110.50
1 Scarf	` 128.95
Total	` 485.05

The total money due in the bill is ` 485.05

(d)

Bill	
Books	` 315.75
Notebooks	` 202.70
Pens	` 56.80
Total	` 575.25

The total money due in the bill is ` 575.25.

(e)

Bill	
Potatoes	` 36.80
Onions	` 42.75
Tometoes	` 26.50
Spinach	` 18.40
	124.45

The total money due in the bill is ` 124.45.

2. For each bill shown below, a 1000-rupee note was given to the shopkeeper. Find the amount returned in each case :

(a)

Bill	
Lunch box	` 196.75
Books	` 272.40
Towels	` 304.50
Total	` 773.65

The amount given = ` 1000.00
The amount due in the bill = – ` 773.05
The amount returned = ` 226.35

(b)

Bill	
Pens	` 208.75
Notebooks	` 106.40
calculator	` 282.95
School bag	` 195.70
Total	` 793.80

The amount given = ` 1000.00
The amount due in the bill = – ` 793.80
The amount returned = ` 206.20

3. Solve the following word problems :

Maduri had in her kids bank = ` 225.00
Her mother gave her = ` 50.00
Her father gave her = + ` 75.00
Total = ` 350.00
Madhuri has ` 350 now.

Madhuri has now = ` 350.00
She spent on the dress = – ` 315.85
Balance money with her = ` 34.15
` 34.15 will be left with Madhuri.

(b) Radhika spent on Monday = ` 246.50
She spent on Tuesday = + ` 483.65
Total = ` 730.15

Radhika had = ` 900.00
She spent = + ` 730.15
Balance money with her = ` 169.85
So, ` 169.85 are left with Radhika now.

Exercise 12.4

1. Find the cost of the following :

(a) Here, we multiply ` 37.20 by 6 to find the cost of 6 books.
So, the cost of 6 books is ` 223.20.

`	P
37.	20
×	6
223.	20

(b) Here, we multiply ` 11.65 by 7 to find the cost of 7 pens.
So, the cost of 7 pens is ` 81.55.

`	P
11.	65
×	7
81.	55

(c) Here, we multiply ` 23.75 by 8 to find the cost of 8 bottles.
So, the cost of 8 bottles is `190.00.

`	P
23	75
×	8
190.	00

(d) Here, we multiply ` 2.25 by 9 to find the cost of 9 erasers.
So, the cost of 9 erasers is ` 20.25.

`	P
2.	25
×	9
20.	25

2. Find the cost of :

(a) Here, we will divide ` 72 by 6 to find the cost of 1 box.
The quotient is 12 which is in rupees.
So, the cost of 1 box is ` 12.

```
   12
6 ) 72
   -6
    12
   -12
     0
```

(b) Here, we will divide ` 1688 by 8 to find the cost of 1 pillow.
The quotient is 211 which is in rupees.
So, the cost of 1 pillow is ` 211.

```
   211
8 ) 1688
   -16
    08
    -8
     08
     -8
      0
```

(c) Here, we will divide ` 2512 by 4 to find the cost of 1 jacket.
The quotient is 628 which is in rupees.
So, the cost of 1 jacket is ` 628.

```
   628
4 ) 2512
   -24
    11
    -8
     32
    -32
      0
```

(d) Here, we will divide ` 693 by 9 to find the cost of 1 folder.
The quotient is 77 which is in rupees.
So, the cost of 1 folder is ` 77.

```
   77
9 ) 693
   -63
    63
   -63
     0
```

3. Solve the following word problems :

(a) Here, we first multiply ` 108.50 by 8 to find the cost of 8 books.
The product is ` 868.00 which is the cost of 8 books.

`	P
108.	50
×	8
868.	00

`	P
Madhu gave the shopkeeper	1000. 00
She has to pay for 8 books	– 868. 00
Balance money	132. 00

So, ` 132.00 will be returned.

`	P
Shreya had	600. 00
She took more	+ 250. 00
Total money with her now	850. 00

`	P
She bought 6 vessels each costing ` 125.70	125. 70
×	6
Here, we have to multiply ` 125.70 by 6 to find the cost of 6 vessels.	754. 20

The product is ` 754.20 which is the cost of 6 vessels.
Now, Shreya has = ` 850.00
She has to pay = – ` 754.20
Money will be left with her = ` 95.80
So, ` 95.80 will be left with Shreya now.

(c) Here we will divide ` 1856 by ` 8 to find the number of toy cars.
The quotient is 232 which is the number of toy cars.
So, 232 toy cars can be bought for ` 1856.

```
   232
8 ) 1856
   -16
    25
   -24
    16
   -16
     00
```

(d) Here, we will divide ` 1726 by ` 7 to find the number of pens.
The quotient is 246 which is the number of pens and the remainder 4 is in rupees which is the balance money
So, 246 pens can be bought for ` 1726 and ` 4 will be left.

```
   246
7 ) 1726
  -14
    32
   -28
     46
    -42
      4
```

Revision

1. Find the total amount :

(a) 30 notes of 50 ` (50 × 30) = ` 1500
20 notes of 20 ` (20 × 20) = ` 400
90 coins of 5 ` (5 × 90) = ` 450
Total amount = ` 2350

(b) 12 notes of ` 500 = (500 × 12) = ` 6000
10 notes of ` 100 = (100 × 10) = ` 1000
13 notes of ` 10 = (10 × 13) = ` 130
Total amount = ` 7130

2. (a)

Bill	
Dress	` 385.50
Raincoat	` 156.75
Shoes	` 280.40
Socks	` 46.80
Total	` 869.45

The money given to shopkeeper = ` 1000.00
The money due in the bill = ` 869.45
Balance money = ` 130.55
The shopkeeper will return ` 130.55.

(b)

Bill	
Books	` 101.75
Notebooks	` 68.70
Pens	` 32.90
Erasers	` 12.40
Total	` 215.75

The money given to shopkeeper = ` 1000.00
The money due in the bill = ` 215.75
Balance money = ` 784.25
The shopkeeper will return ` 784.25.

3. Find the cost of :

(a) Here, we multiply ` 112.80 by 8 to find to cost of 8 boxes.
The product is ` 902.40 which is cost of 8 boxes.

`	P
112.	80
×	8
902.	40

(b) Here, we multiply ` 105.20 by 6 to find to cost of 6 bags.
The product is ` 631.20 which is the cost of 6 bags.

`	P
105.	20
×	6
631.	20

(c) Here, we will divide ` 4560 by 15 to find the cost of 1 pair of shoes.
The quotient is 304 which is in rupees.

```
    304
15 ) 4560
   -45
    060
   -60
     0
```

So, the cost of 1 pair of shoes is ` 304.00.

(d) Here, we will divide ` 7632 by 12 to find the cost of 1 shirt
The quotient is 636 which is in rupees.
So, the cost of 1 shirt is ` 636.00.

```
    636
12 ) 7632
   -72
    43
   -36
     72
    -72
      0
```

4.

```
  ` 372.60
+ `  77.00
  ` 449.60
```

So, ` 450.00 > ` 449.60
Therefore, the amount ` 450 is greater.

5. Here, we will find the difference between ` 42.30 and ` 63.90
So, the difference ` 21.60 is not greater than ` 29, i. e.,
` 29 > ` 21.60
Therefore, the answer is 'No'.

`	P
63.	90
−42.	30
21.	60

6. Fill in the blanks :

(a) 8 notes of ` 100 means.
a total of ` (100 × 8) = ` 800

(b) 4 notes of ` 50 means
a total of ` (50 × 4) = ` 200

(c) 5 notes of ` 20 means
a total of ` (20 × 5) = ` 100

(d) 2 notes of ` 500 means
a total of ` (500 × 2) = ` 1000

7. Find out the cost of :

(a) Here, we multiply ` 100 by 4 to find the cost of 4 books.
` (100 × 4) = ` 400
So, the cost of 4 books is ` 400.

(b) Here, we will divide ` 600 by 6 to find the cost of one box.
` (600 ÷ 6) = ` 100
So, the cost of 1 box is ` 100.

(c) Here, we will divide ` 35 by 7 to find the cost of 1 pen.
` (35 ÷ 7) = ` 5
So, the cost of 1 pen is ` 5.

Exercise 13.1

1. Write the time :

(a) 2 : 00 or 2 o'clock (b) half past 10

(c) 10 minutes to 8 (d) 25 minutes past 7

2. Do Yourself.

Exercise 13.2

1. Fill in the blanks with 'a.m.' or 'p.m.' :

(a) a. m. (b) p. m. (c) a. m.

(d) a. m. (e) p. m. (f) a. m.

2. Tell the time :

(a) 3 p. m.

(b) 11 :30 p. m. : 12 midnight – 30 minutes = 11 : 30 p. m.

(c) 2 : 00 a. m. : 11 p. m. + 1 hour = 12 midnight + 2 hours = ` 2 : 00 a. m.

(d) 4 : 15 a. m. : 5 : 05 a. m. – 50 minutes ` 4 : 15 a. m.

(e) 12 : 20 a. m. : 8 p. m. + 4 hours = 12 : 00 midnight + 20 minutes ` 12 : 20 a. m.

3. Use 24-hour clock to express the time :

(a) 06 : 15 hours (b) (12 : 00 + 5 : 45 =) 17 : 45 hours

(c) 10 : 30 hours (d) (12 : 00 + 8 : 40 =) 20 : 40 hours

(e) 00 : 05 hours 04 : 05 hours

(f) 23 : 30 hours : 12 : 00 noon + 11 : 30 hours = ` 23 : 30 hours

4. Use 12-hour clock to express the time :

(a) 2 : 40 a.m. : 12 midnight + 2 : 40 hours ` 2 : 40 a.m.

(b) 8 : 00 p.m. : 12 noon + 8 : 00 hours ` 8 000 p.m.

(c) 12 : 15 a.m. : 12 midnight + 0 15 hours ` 12 : 15 a.m.

(d) 9 : 28 p.m. : 12 noon + 9 : 28 hours ` 9 : 28 p.m.

(e) 11 : 40 a.m. : 12 midnight + 11 : 40 hours ` 11 : 40 a.m.

(f) 4 : 45 p.m. : 12 noon + 4 : 45 hours ` 4 : 45 p.m.

Exercise 13.3

1. Find the time duration between :

(a) 11 : 10 a.m. $\xrightarrow[50\text{ minutes}]{}$ 12 noon $\xrightarrow[6\text{ hours }10\text{ minutes}]{}$ 6 : 10 p.m.

The time duration = 50 minutes + 6 hours 10 minutes

= 6 hours 60 minutes = 7 hours

(b) 10 : 30 a.m. $\xrightarrow[1\text{ hour }30\text{ minutes}]{}$ 12 noon $\xrightarrow[2\text{ hours }30\text{ minutes}]{}$ 2 : 30 p.m.

The time duration = 1 hour 30 minutes

+ 2 hours 30 minutes

= 3 hours 60 minutes = 4 hours

(c) 3 : 40 a.m. $\xrightarrow[20\text{ minutes}]{}$ 4 : 00 a.m. $\xrightarrow[8\text{ hours}]{}$ 12 noon $\xrightarrow[6\text{ hours }20\text{ minutes}]{}$ 6 p.m.

The time duration = 20 minutes + 8 hours + 6 hours 20 minutes

= 14 hours + 40 minutes

= 14 hours 40 minutes

(d) 8 : 20 a.m. $\xrightarrow[40\text{ minutes}]{}$ 9 : 00 a.m. $\xrightarrow[1\text{ hours }45\text{ minutes}]{}$ 10 : 45 a.m.

The time duration = 40 minutes + 1 hour 45 minutes

= 1 hour + 85 minutes

= 2 hours 25 minutes

(e) 5 : 16 a.m. $\xrightarrow[44\text{ minutes}]{}$ 6 : 00 a.m. $\xrightarrow[4\text{ hours }48\text{ minutes}]{}$ 10 : 48 a.m.

The time duration = 44 minutes + 4 hours 48 minutes

= 4 hours + 92 minutes

= 5 hours 32 minutes

(f) 12 noon $\xrightarrow[9\text{ hours }38\text{ minutes}]{}$ 9 : 38 p.m.

The time duration = 9 hours 38 minutes

2. What will be the time? Use 'a.m.' or 'p.m.' :

(a) 1 hour after 6 : 20 p.m. is 7 : 20 p.m.
10 minutes after 7 : 20 p.m. is **7 : 30 p.m.**

(b) 2 hour after 11 : 40 a.m. is 1 : 40 p.m.
5 minutes after 1 : 40 p.m. is **1 : 45 p.m.**

(c) 45 minutes after 3 : 10 p.m. is **3 : 35 p.m.**

(d) 20 minutes after 11 : 50 p.m. is **12 : 10 a.m.**

(e) 2 hours after 2 : 25 p.m. is 4 : 25 p.m.
2 minutes after 4 : 25 p.m. is **4 : 27 p.m.**

(f) 1 hour after 7 : 20 p.m. is 8 : 20 p.m.
40 minutes after 8 : 20 p.m. is **9 : 00 p.m.**

3. Solve the following :

(a) 8 : 20 a.m. $\xrightarrow[40\text{ minutes}]{}$ 9 : 00 a.m. $\xrightarrow[6\text{ hours }30\text{ minutes}]{}$ 3 : 30 p.m.

So, Madhu is away form home = 40 minutes + 6 hours 30 minutes

= 6 hours 70 minutes

= 7 hours 10 minutes

(b) 40 minutes after 6 : 40 a.m. is 7 : 20 a.m.
So, Gurmeet will return at 7 : 20 a.m.

(c) 1 hour after 10 : 45 a.m. is 11 : 45 a.m.
20 minutes after 11 : 45 is 12 : 05 p.m.
So, Mrs Singh returned at 12 : 05 p.m.

(d) 4 : 10 p.m. $\xrightarrow[50\text{ minutes}]{}$ 5 : 00 p.m. $\xrightarrow[1\text{ hour }5\text{ minutes}]{}$ 6 : 05 p.m.

The time duration = 50 minutes + 1 hour 5 minutes

= 1 hour 55 minutes

So, Rita was away for 1 hour 55 minutes.

(e) 10 : 20 a.m. $\xrightarrow[40\text{ minutes}]{}$ 11 : 00 a.m. $\xrightarrow[3\text{ hours }50\text{ minutes}]{}$ 2 : 50 p.m.

The time duration = 40 minutes + 3 hours 50 minutes

= 3 hours + 90 minutes

= 4 hours 30 minutes

So, vendor is away on round for 4 hours 30 minutes.

(f) 3 hours after 3 : 10 p.m. is 6 : 10 p.m.
10 minutes after 6 : 10 p.m. is 6 : 20 p.m.
So, the film will get over at 6 : 20 p.m.

Exercise 13.4

1. Answer the following :

(a) There are 365 days in a year.

(b) There are 366 days in a leap year.
(c) April, June
(d) July, August
(e) February has 29 days in a leap year.

2. Write the following dates in short form :

(a) 10.05.2008 (b) 15.04.2010
(c) 14.07.2013 (e) 15.08.2014

3. Find the number of days between :

(a) From 8 January to 14 February = 38 days
So, the number of days between 7 January and 15 February is 38.

(b) From 29 March to 15 may = 48 days
So, the number of days between 28 March to 16 May is 48.

(c) From 22 October to 9 December = 49 days
So, the number of days between 21 October to 9 December is 49 days.

(d) Between Teacher's Day and Children's Day
= Between 5 September and 14 November
= From 6 September to 13 November = 69 days
So, the number of days between Teacher's Day and Children's Day is 69.

(e) Between Christmas Day and Republic Day
= Between 25 December and 26 January
= From 26 December to 25 January = 31 Days
So, the number of days between Christmas Day and Republic Day is 31.

4. Solve the following word problems :

(a) Ishaan's last working day was 16 July.
He took 23 day of leave form office.
So his first day of leave 17 July.
And his last day of leave = 8 August.
So, Ishaan will have to join on 9 August.

(b) Meena 's aunt reached on 10 May.
So, her visit start on 10 May and she took 54 days including 10 May, for her visit.
Therefore, Meena's aunt would be leaving for her visit on 18 March.

(c) Maninder's 21 days camp finished on 30 May.
So, his camp took 21 days back including 30 May, to begin.
Therefore, Maninder's 21 days camp began in 10 May.

(d) Swati joined school on 4 January.
She took 14 days for a winter break before 4 January = From 21 December to 3 January.
Therefore, the last working day of Swati's school was 20 December.

(e) Do yourself.

Revision

1. Write the exact time should in the clock :

(a) 7 : 11 (b) 7 : 24 (c) 9 : 32

2. Fill in the blanks with a.m. or p.m. :

(a) p.m. (b) a.m. (c) p.m. (d) a.m.

3. Write the time for each of the following :

(a) 2 hours after 10 : 10 a.m. = 12 : 10 p.m.
(b) 3 hours after 7 : 14 p.m. = 10 : 14 p.m.
(c) 2 hours before 1 : 30 a.m. = 11 : 30 p.m.
(d) 1 hour before 12 : 15 p.m. = 11 : 15 a.m.

4. Find the time duration between :

(a) 6 : 10 a.m. $\xrightarrow[50\text{ minutes}]{}$ 7 : 00 a.m. $\xrightarrow[3\text{ hours }20\text{ minutes}]{}$ 10 : 20 a.m.

The time duration = 50 minutes + 3 hours 20 minutes
= 3 hours + 70 minutes
= 4 hours 10 minutes

(b) 4 : 15 p.m. $\xrightarrow[45\text{ minutes}]{}$ 5 : 00 p.m. $\xrightarrow[5\text{ hours }10\text{ minutes}]{}$ 10 : 10 p.m.

The time duration = 45 minutes + 5 hours 10 minutes
5 hours 55 minutes

(c) 9 : 40 a.m. $\xrightarrow[20\text{ minutes}]{}$ 10 : 00 a.m. $\xrightarrow[4\text{ hours }10\text{ minutes}]{}$ 2 : 10 p.m.

The time duration = 20 minutes + 4 hours 10 minutes
= 4 hours 30 minutes

(d) 10 : 45 p.m. $\xrightarrow[15\text{ minutes}]{}$ 11: 00 p.m. $\xrightarrow[1\text{ hours }20\text{ minutes}]{}$ 12 : 20 p.m.

The time duration = 15 minutes + 1 hours 20 minutes
= 1 hours 35 minutes

5. Find the number of days between :

(a) Between 16 March and 11 May
= From 17 March to 10 May = 55 days

(b) Between 22 May and 3 July
= From 23 May to 2 July = 41 days

(c) Between 21 August and 9 October
= Form 22 August to 8 October = 48 days

(d) Between 23 September and 21 November
= 24 September to 20 November = 58 days

6. Solve the following word problems :

(a) Priya left home at 7 : 45 a.m.
She takes 35 minutes to reach school.
So, she will reach at = 7 : 45 a.m. + 35 minutes
= 8 : 20 a.m.
Therefore, Priya will reach school at 8:20 a.m.

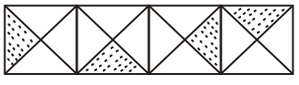
(b) Duration of Monika's camp was 25 days from 20 October.
= 13 November
So, the last days of the camp was 13 November.

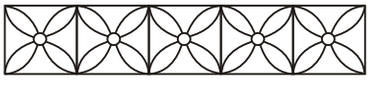
(c) Prerna's 45-days vacation ended on 25 June.
The last working day of Prerna's school was 11 May.

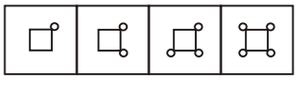
14 Patterns

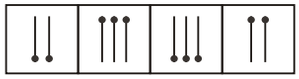
Exercise 14.1

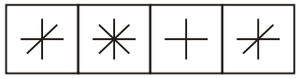
Extend the following patterns :

(a) 

(b) 

(c) 

(d) 

(e) 

Exercise 14.2

1. Look at the pattern and complete the series :

(a)	52,	62,	72,	82
(b)	16,	14,	12,	10
(c)	131415,	161718,	192021,	222324
(d)	508,	608,	708,	808
(e)	4246,	5246,	6246,	7246
(f)	IJ,	KL,	MN,	OP
(g)	E5,	F6,	G7,	H8
(h)	IJI,	KLK,	MNM,	OPO

2. If a-1, b-2, c-3, ... x- 24, y- 25, z- 26, then write the message for each of the following :

(a) I LOVE MATHS.

(b) HOME SWEET HOME.

(c) MY MOTHER IS BEST.

3. Look at the pattern and complete the number towers :

(a)

	28	
15		13
7	8	5

(b)

	41	
19		22
9	10	12

(c)

	24	
6		4
6	1	4

(d)

	60	
10		6
5	2	3

(e)

	46	
21		25
11	10	15

(f)

	72	
8		6
8	1	9

4. Do yourself.

Exercise 14.3

Add each of the following till you find the pattern and then complete without calculating :

1.
$1 + 2 + 3 + 4 + 5 = 15$
$2 + 3 + 4 + 5 + 6 = 20$
$3 + 4 + 5 + 6 + 7 = 25$
$4 + 5 + 6 + 7 + 8 = 30$
$5 + 6 + 7 + 8 + 9 = 35$
$6 + 7 + 8 + 9 + 10 = 40$
$7 + 8 + 9 + 10 + 11 = 45$

2.
$1 + 3 = 4$
$1 + 3 + 5 = 9$
$1 + 3 + 5 + 7 = 16$
$1 + 3 + 5 + 7 + 9 = 25$
$1 + 3 + 5 + 7 + 9 + 11 = 36$
$1 + 3 + 5 + 7 + 9 + 11 + 13 = 49$
$1+3+5+7+9+11+13+15 = 64$

3.
$2 + 4 = 6$
$2 + 4 + 6 = 12$
$2 + 4 + 6 + 8 = 20$
$2 + 4 + 6 + 8 + 10 = 30$

4.
$1 + 2 + 3 + 4 = 10$
$2 + 3 + 4 + 5 = 14$
$3 + 4 + 5 + 6 = 18$
$4 + 5 + 6 + 7 = 22$

Exercise 14.4

1. Find out the shapes that tesselate :

(a) d. (e)

2. Do your self.

Revision

1. Look at the pattern and write the next 4 terms of the series in each of the following :

(a)	120,	140,	160,	180
(b)	87,	97,	107,	117
(c)	70,	65,	60,	55
(d)	555,	666,	777,	888
(e)	Ee,	Ff,	Gg,	Hh
(f)	V6,	U5,	T4,	S3

2. Complete the number towers :

(a)

	36	
17		19
9	8	11

(b)

	80	
8		10
4	2	5

(c)

	147	
21		7
3	7	1

3. Identify the pattern and complete the number sequence :

(a)
$1 + 3 + 5 + 7 = 16$
$3 + 5 + 7 + 9 = 24$
$5 + 7 + 9 + 11 = 32$
$7 + 9 + 11 + 13 = 40$
$9 + 11 + 13 + 15 = 48$

(b)
$1 \times 11 = 11$
$2 \times 11 = 22$
$3 \times 11 = 33$
$4 \times 11 = 44$
$5 \times 11 = 55$

4. Do yourself.

5. Do yourself.

15 Data Handing

Exercise 15.1

1. The heights of the students in Shrikant's class are given in the box. Work with a friend to fill this chart from the data in the box :

Height	Tally mark	Number
Below 110 cm	𝍸 II	7
110 cm to 120 cm	𝍸 𝍸 III	13
Above 120 cm	𝍸 I	6

1. 109 cm 2. 115 cm 3. 112 cm
4. 115 cm 5. 108 cm 6. 109 cm
7. 119 cm 8. 112 cm 9. 120 cm
10. 114 cm 11.115 cm 12. 108 cm
13. 112 cm 14. 122 cm 15. 119 cm
16. 109 cm 17. 113 cm 18. 121 cm
19. 123 cm 20. 108 cm 21. 114 cm
22. 124 cm 23. 117 cm24. 107 cm
25. 124 cm 26. 121 cm

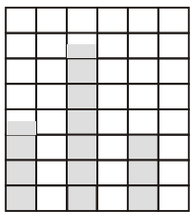
Make a bar graph by colouring squares
(1 square = 2 students) and answer the following questions :

(a) The greatest number of students are 13 (110 – 120).

(b) The least number of students are 6 (above 120).

(c) The fraction of the total number whose heights are between 110 cm and 120 cm is $\frac{13}{26} = \frac{1}{2}$.

(d) The number of students above 120 cm is 6.



2. This is a part of poem by H.W. Longfellow. Read it and find the word that is used most often. Choose from possible words like 'I', 'it' 'to' and 'the'. Then make a table like the one here and decide :

	Tally marks	Number
I	𝍸	4
it	𝍸 I	6
to	III	3
the	𝍸	4

3. Divide the alphabet into five groups. Take the names of any 30 classmates and see how many names start with the letters of each group. Make a chart like this :

A to E	F to J	K to O	P to T	U to Z
𝍸 𝍸 II	𝍸	𝍸 II	𝍸	II

According to the chart, answer the following questions :

(a) Most names start with letters of the group : A to E.
Number of names in the group = 12.

(b) The group of letter with the least names is : U to Z.
Number of names in the group = 2.

4. The following pictograph shows how much a family spends on different things every month :

Rent	● ● ●	● = ` 2,000
Food	● ● ● ◗	
Education	●	
Transport	● ◔	
Other	● ● ◔	

(a) What does the family spend the most on? Food (` 7000)

(b) How much does it spend on transport? `(2000 + 1500)
= ` 3500

(c) How much does it spend in total? ` 23,000

(d) If the family earns ` 25,000 every month,
how much does it save? = `(25,000 – 23,000) = ` 2000

5. Fill this pictograph to show how many children took part in different events on sports Day. Use ⊕ to show 15 children. The numbers are given in the second column:

Event	⊕	Number
Races	⊕ ⊕ ⊕ ⊕ ⊕	75
Jumps	⊕ ⊕ ⊕ ⊕ ◡	65
Swimmig	⊕ ⊕ ⊕ ◔	55
Karate	⊕ ⊕ ⊕ ◡	50

6. Do yourself.

7. The bar graph shows the population (number of people) of three cities, A, B and C, in the years 2000 and 2010.

Each square stands for 20,00,000 people.

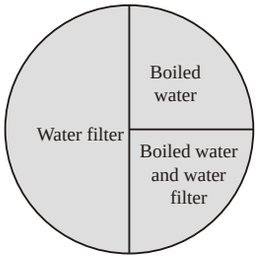
(a) City 'B' had the highest population in 2000. It was (20,00,000 × 8=) 1,60,00,000.

(b) The population of city 'A' in 2000 = 1,30,00,000
The population of city 'B' in 2000 = 1,60,00,000
The difference between the population of city 'A' and city 'B' in 2000 = 1,60,00,000 – 1,30,00,000
= 30,00,000

(c) In the city 'B' the population increased the most from 2000 to 2010

(d) Cities 'B' and 'C' had the same increase in population in the ten years.

8. Arif's class formed 5 groups. Each group asked 20 families how they make sure that their drinking water is safe. Then the 5 groups put together their data and make this pie chart :



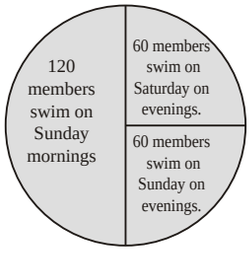
(a) Arif's class questioned
(5 × 20 =) 100 families.

(b) 25 of the families use only boiled water.

(c) 50 of the families use only water filters.

(d) 25 of the families use boiled water and water filters.

9.



10. Do yourself.

Exercise 1.1

1. Write the numbers in words :

(a) Seventy-nine lakh seventy-two thousand forty-six.
(b) Thirty-two lakh forty thousand two hundred forty.
(c) Nine crore eighty-seven lakh twenty-four.
(d) Six crore thirty-five lakh ninety-two thousand four.
(e) Eighty-one crore ten lakh two hundred forty-three.
(f) Twenty crore thirty lakh forty thousand five hundred sixty.

2. Write the number-names in figures :

(a) 24,32,019 (b) 70,81,405
(c) 9,00,22,608 (d) 6,42,09,016
(e) 86,75,00,692 (f) 30,00,72,007

3. How many numbers have :

(a) 5 digit
Greater 5- digit number = 99999
Greater 4- digit number = 9999
Number of 5-digit numbers = 99999 – 9999 = 90000

(b) 8 digit
Greater 8- digit number = 99999999
Greater 7- digit number = 9999999
Number of 8-digit numbers = 99999999 – 9999999
= 90000000

4. Write the next three numbers in the sequence :

(a) 3523072, 3524072, 3525072
(b) 5730034, 5740034, 5750034
(c) 48510248, 49510248, 50510248
(d) 43850962, 53850962, 63850962

5. Find the digit at :

(a) The digit at 7th place = 2 (b) The digit at 8th place = 9
(c) The digit at 6th place = 4 (b) The digit at 9th place = 5

6. Fill in the blanks :

(a) Hundreds (b) Ten crores
(c) 100000000 = Ten crore (d) 6 (six)
(e) Hundreds
(f) Ten crores, crores

Exercise 1.2

1. Find the place value of the highlighted digits :

(a) $8 \times 100 = 800$ (b) $9 \times 10000 = 90000$
(c) $8 \times 10000 = 80000$ (d) $9 \times 1000000 = 9000000$
(e) $3 \times 10000 = 30000$ (f) $9 \times 100 = 900$

2. Do yourself

3. Write the expanded form and find the place value of 8 in each case :

(a) 3280065 = 3000000 + 200000 + 80000 + 60 + 5
Place value of 8 = 80000

(b) 3200685 = 3000000 + 20000 + 600 + 80 + 5
Place value of 8 = 80

(c) 32650408 = 30000000 + 2000000 + 600000 + 50000 + 400 + 8
Place value of $8 = 8 \times 1 = 8$

4. Write the numbers in short form :

(a) 7,03,89,024 (b) 65,00,00,271
(c) 49,60,005 (d) 3,00,00,408

Exercise 1.3

1. Compare the numbers using '<, > or = ' :

(a) > : First number has 7 digit, last number has 6 digits.
7 digits > 6 digits

(b) < : First number has 1 at Lakhs place, last numbers has 5 at lakhs place.
1 < 5

(c) = : Both numbers are the same.

(d) > : First number has 2 at lakhs place, last numbers has 0 at lakhs place.
2 > 0

2. Write the numbers in ascending order :

(a) 3246390, 3463092, 4639203, 4963203
(b) 51871923, 57811329, 58931172, 59321781

3. Write the numbers in descending order :

(a) 69003420, 63002049, 60009423, 6003249

4. Form the greatest and smallest number (by using) the digits only once :

(a) 3, 2, 4, 5, 0, 9, 1
Greatest number = 9543210
Smallest number = 1023459

(b) 5, 7, 8, 9, 9, 3, 2, 4
Smallest number = 23457899
Greatest number = 99875432

(c) 8, 2, 9, 3, 1, 6, 4, 4
Greatest number = 98644321
Smallest number = 12344689

5. From the greatest and smallest 7-digit number you can repeat the digits :

(a) 4, 2, 1, 3
The greatest number is 4444321
(greatest digit is repeated).
The smallest number is 1111234
(smallest digit is repeated).

(b) 5, 6, 7, 0, 8
The greatest number is 8887650
(greatest digit is repeated).
The smallest number is 5000678
(smallest digit is repeated).

(c) 9, 7, 0, 2, 1
The greatest number is 9997210
(greatest digit is repeated).
The smallest number is 1000279
(smallest digit is repeated).

6. Write the successor of these numbers :

(a) Successor : 32846213 + 1 = 32846214

(b) Successor : 98710043 + 1 = 98710044

(c) Successor : 65602468 + 1 = 65602469

7. Write the predecessor of these numbers :

(a) Predecessor : 73210056 – 1 = 73210055

(b) Predecessor : 6320415 – 1 = 6320414

(c) Predecessor : 44328463 – 1 = 44328462

Exercise 1.4

1. Write the numbers in words according to the international system :

(a) 4520320

Four million five hundred twenty thousand three hundred twenty.

(b) 968040

Nine hundred sixty-eight thousand forty.

(c) 52113262

Fifty-two million one hundred thirteen thousand two hundred sixty-two.

(d) 725620720

Seven hundred twenty-five million six hundred twenty thousand seven hundred twenty.

(e) 5220724

Five million two hundred twenty thousand seven hundred twenty-four.

(f) 324629

Three hundred twenty-four thousand six hundred twenty-nine.

2. Write the numbers in figures :

(a) 72,096,208 (b) 864,000,029 (c) 91,674,000

Revision

1. 72900462 = Seven crore twenty-nine lakh four hundred sixty-two.

351164090 = Thirty-five crore eleven lakh sixty-four thousand ninety.

2. Write the numbers given in following sentences in figures :

(a) 34,06,048 (b) 9,20,07,031

3. Form a number with the following :

(a) 80,17,230 (b) 8,07,02,594

4. Write the following numbers in Indian place value chart and find the place value of 4 in each case :

S.No.	Number	Indian Place Value Chart								Place value of 4
		C	TL	L	T-Th	Th	H	T	O	
(a)	97408092	9	7	4	0	8	0	9	2	4 × 100000 = 400000
(b)	29760400	2	9	7	6	0	4	0	0	4 × 100 = 400
(c)	45110629	4	5	1	1	0	6	2	9	4 × 10000000 = 40000000
(d)	3246036		3	2	4	6	0	3	6	4 × 10000 = 40000
(e)	9359463		9	3	5	9	4	6	3	4 × 100 = 400
(f)	54999365	5	4	9	9	9	3	6	5	4 × 1000000 = 4000000

5. Write the following numbers in expanded form. Also find the sum of place value of 2 in each case :

(a) 27640279 = 20000000 + 7000000 + 600000 + 40000 + 200 + 70 + 9

Sum of place value of 2 = 20000000 + 200 = 20000200

(b) 12344321 = 10000000 + 2000000 + 300000 + 40000 + 4000 + 300 + 20 + 1

Sum of place value of 2 = 2000000 + 20 = 2000020

(c) 796224024 = 700000000 + 90000000 + 6000000 + 200000 + 20000 + 4000 + 20 + 4

Sum of place values of 2 = 200000 + 20000 + 20 = 220020

(d) 2649929 = 2000000 + 6000000 + 40000 + 9000 + 900 + 20 + 9

Sum of place value of 2 = 2000000 + 20 = 2000020

(e) 3298362 = 3000000 + 200000 + 90000 + 8000 + 300 + 60 + 2

Sum of place value of 2 = 200000 + 2 = 200002

(f) 52726939 = 50000000 + 2000000 + 700000 + 20000 + 6000 + 900 + 30 + 9

Sum of place value of 2 = 2000000 + 20000 = 2020000

6. Form the greatest 8-digit number if :

(a) 98654327 (b) 98076541

7. Write the following numbers in International place value chart :

S.No.	Number	International Place Value Chart							
		TM	M	H-Th	T-Th	Th	H	T	O
(a)	27400649	2	7	4	0	0	6	4	9
(b)	21140079	2	1	1	4	0	0	7	9
(c)	52887930	5	2	8	8	7	9	3	0

2 Roman Numerals

Exercise 2.1

1. Write the following in Hindu-Arabic numerals :

(a) XXIV = 24 (b) XVI = 16

(c) XXVIII = 28

(d) XXXVI = 36 (e) XXXIX = 39

(f) XLII = 42

(g) XIV = 54 (h) LXXII = 72

(i) LXIV = 64

(j) XCI = 91 (k) LXXXIX = 89

(l) LXVIII = 68

(m) XCVI = 96 (n) LXIX = 69

(o) LVIII = 58

(p) XLIV = 44 (q) LIII = 53

(r) LXV = 65

(s) XXV = 25 (t) XVIII = 18

(u) XCV = 95

(v) C = 100 (w) XL = 40

(x) LV = 55

(y) XCVII = 97 (z) XCIX = 99

2. Write the following in Roman Numerals :

(a) 13 = XIII (b) 17 = XVII
(c) 27 = X XVII
(d) 38 = XXXVIII (e) 26 = XXVI
(f) 40 = XL
(g) 46 = XLVI (h) 55 = LV
(i) 53 = LIII
(j) 63 = LXIII (k) 79 = LXXIX
(l) 81 = LXXXI
(m) 67 = LXVII (n) 57 = LVII
(o) 66 = LXVI
(p) 86 = LXXXVI (q) 98 = XCVIII
(r) 84 = LXXXIV
(s) 78 = LXXVIII (t) 93 = XCIII
(u) 87 = LXXXVII
(v) 73 = LXXIII (w) 82 = LXXXII
(x) 99 = XCIX
(y) 100 = C (z) 59 = LIX

3. Solve the following and write your answers in roman numerals :

(a) $6 \times 9 = 54 =$ LIV
(b) LXXV ÷ V = (75 ÷ 5 = 15) = VL
(c) 71 + 8 = 79 = LXXIX
(d) XV × III = (15 × 3 = 45) = VL
(e) LXXX – XXIV = (80 – 24 = 56) = LVI
(f) XXV + XXXV = (25 + 35 = 60) = LX
(g) XCV – XLII = (95 – 42 = 53)= LIII
(h) XXV × II = (25 × 2 = 50) = L
(i) 35 + 45 = 80 = LXXX
(j) 55 + 23 = 78 = LXXVIII

4. Fill in the blanks with the correct number in roman numerals :

(a) XLIII – III = XL (43 – 3 = 40)
(b) LX – XL = XX (60 – 40 = 20)
(c) XX + XV = XXXV (20 + 15 = 35)
(d) XXX ÷ XXX = I (30 ÷ 30 = 1)
(e) C ÷ II = L (100 ÷ 2 = 50)
(f) LXXII ÷ IX = VIII (72 ÷ 9 = 8)
(g) L × II = C (50 × 2 = 100)
(h) XX + V = XXV (20 + 5 = 25)

5. Fill in the box with '>, < or = ':

(a) XX + XXX = L (20 + 30 = 50)
(b) 120 – 45 ≤ LXXXV (120 – 45 = 75 ; 75 < 85)
(c) LXX – LX ≥ IX (70 – 60 = 10; 10 > 9)
(d) D +D = M (500 + 500 = 1000; 1000 = 1000)
(e) LIV ≤ LVI (54 < 56)
(f) LXXXVIII + X ≤ XCIX (88 + 10 = 98; 98 < 99)

3 Four Operations

Exercise 3.1

1. Add the following and write the sum in words :

(a)
$$\begin{array}{r} 2\,4\,5\,1\,4\,8 \\ +\,4\,3\,2\,0\,3\,0 \\ \hline 6\,7\,7\,1\,7\,8 \end{array}$$
Sum : Six lakh seventy-seven thousand one hundred seventy-eight.

(b)
$$\begin{array}{r} 6\,4\,7\,3\,2\,3\,3 \\ +\,3\,1\,2\,4\,7\,4\,5 \\ \hline 9\,5\,9\,7\,9\,7\,8 \end{array}$$
Sum : Ninety-five lakh ninety-seven thousand nine hundred seventy-eight.

(c)
$$\begin{array}{r} 8\,3\,8\,4\,2\,2\,5\,0\,3 \\ +\,1\,6\,1\,4\,1\,5\,4\,0\,4 \\ \hline 9\,9\,9\,8\,3\,7\,9\,0\,7 \end{array}$$
Sum : Ninety-nine crore ninety-eight lakh thirty-seven thousand nine hundred seven.

(d)
$$\begin{array}{r} 4\,6\,6\,5\,7\,5\,0\,1 \\ +\,4\,7\,4\,4\,8\,5\,1\,7 \\ \hline 9\,4\,1\,0\,6\,0\,1\,8 \end{array}$$
Sum : Nine crore forty-one lakh six thousand eighteen.

(e)
$$\begin{array}{r} 5\,3\,7\,4\,2\,6\,5\,8\,9 \\ +\,2\,6\,6\,4\,3\,5\,4\,0\,5 \\ \hline 8\,0\,3\,8\,6\,1\,9\,9\,4 \end{array}$$
Sum : Eighty crore thirty-eight lakh sixty-one thousand nine hundred ninety-four

(f)
$$\begin{array}{r} 4\,2\,3\,4\,5\,4\,1\,0 \\ +\,3\,0\,1\,3\,2\,5\,6\,4 \\ \hline 7\,2\,4\,7\,7\,9\,7\,4 \end{array}$$
Sum : Seven crore twenty-four lakh seventy-seven thousand nine hundred seventy-four.

2. Arrange in columns and add :

(a)
$$\begin{array}{r} 2,34,50,301 \\ 2,10,251 \\ +\ 1,241 \\ \hline 2,36,61,793 \end{array}$$

(b)
$$\begin{array}{r} 1,32,03,531 \\ 3,36,233 \\ +\ 41,315 \\ \hline 1,35,81,079 \end{array}$$

(c)
$$\begin{array}{r} 30,41,43,552 \\ 12,42,85,531 \\ +\ 33,41,032 \\ \hline 43,17,70,115 \end{array}$$

(d)
$$\begin{array}{r} 51,21,43,250 \\ 3,40,12,523 \\ +\ 1,21,29,08,874 \\ \hline 1,75,90,64,647 \end{array}$$

(e)
$$\begin{array}{r} 14,16,98,450 \\ 3,75,19,162 \\ +\ 17,31,259 \\ \hline 18,09,48,871 \end{array}$$

(f)
$$\begin{array}{r} 25,16,17,343 \\ 2,12,67,932 \\ +\ 11,12,35,651 \\ \hline 38,41,20,926 \end{array}$$

(g)
$$\begin{array}{r} 31,41,614 \\ 2,33,60,632 \\ +\ 42,88,16,121 \\ \hline 45,53,18,367 \end{array}$$

3. Solve the following problems :

(a) Spare parts produced in 2012 = 53,42,56,739
Spare parts produced in 2013 = + 43,72,68,731
The total parts produced = 97,15,25,470
Therefore, 97,15,25,470 spare parts were produced in the two years by the factory.

(b) Copies of books sold in the world book fair = 84,25,851
Copies of books sold in India book fair = + 22,31,999
The total copies of book = 1,06,57,850
Therefore, 1,06,57,850 copies of books were sold in both the book fairs.

(c) The cost of the flat = ` 23,92,671
The cost of interior decoration and furnishing = ` 5,00,971
The cost of the car = + ` 6,76,842
The total money spent = ` 35,70,484

(d) The men in the state = 2,87,45,816
The women in the state = 2,82,08,788
The children in the state = + 1,68,94,593
The total population = 7,38,49,197

Therefore, the total population in the state is 7,38,49,197

(e) The money spent in first year = ` 3,27,75,812
The money spent in second year = ` 62,79,841
The money spent in third year = + ` 3,28,72,093
The total money spent = ` 7,19,27,746

Therefore, the total money spent by the district administration during the period is ` 7,19,27,746

4. Do yourself

Exercise 3.2

1. Tick (✓) the correct answer :

(a) (ii) 46,79,822 (b) (ii) 2,25,596

2. Subtract the following :

(a) 7030049 − 1591125 = 5438924

(b) 71234548 − 18547665 = 52686883

(c) 25598218 − 9875380 = 15722838

3. Subtract and check the answer :

(a) *Subtraction :* 8,98,99,898 − 2,33,24,323 = 6,65,75,575

Checking : 6,65,75,575 + 2,33,24,323 = 8,98,99,898

6,65,75,575 → Difference
2,33,24,323 → Subtrahend
8,98,99,898 → Minuend

We have, Difference + Subtrahend = Minuend.

So, our answer is correct.

(b) *Subtraction :* 9,87,54,325 − 7,34,75,571 = 2,52,78,754

Checking : 2,52,78,754 + 7,34,75,571 = 9,87,54,325

2,52,78,754 → Difference
7,34,75,571 → Subtrahend
9,87,54,325 → Minuend

We have, Difference + Subtrahend = Minuend.

So, our answer is correct.

(c) *Subtraction :* 7,63,46,619 − 6,12,54,787 = 1,50,91,832

Checking : 1,50,91,832 + 6,12,54,787 = 7,63,46,619

1,50,91,832 → Difference
6,12,54,787 → Subtrahend
7,63,46,619 → Minuend

We have, Difference + Subtrahend = Minuend.

So, our answer is correct.

(d) *Subtraction :* 85,76,248 − 59,44,827 = 26,31,421

Checking : 26,31,421 + 59,44,827 = 85,76,248

26,31,421 → Difference
59,44,827 → Subtrahend
85,76,248 → Minuend

We have, Difference + Subtrahend = Minuend.

So, our answer is correct.

4. Find the missing digits :

(a) 4 4 7 6 0 7 8 − 1 2 1 8 1 4 9 = 3 2 5 7 9 2 9

(b) 7 2 2 4 4 3 8 0 − 3 3 4 9 4 7 1 5 = 3 8 7 4 9 6 6 5

(c) 9 3 7 0 5 5 4 1 − 5 8 6 4 2 7 5 7 = 3 5 0 6 3 7 8 4

5. Solve the following :

(a) 9,86,53,210 − 7,54,310 = 9,78,98,900

Therefore, the difference in both of largest numbers is 9,78,98,900

(b) The number of bottles of cold drink sold in summer = 5,88,79,462
The number of bottles of cold drink sold in winter = − 3,38,45,871
The more bottles sold in summer than in winter = 2,50,33,591

Therefore, 2,50,33,591 more bottles of cold drink were sold in summer than in winter.

(c) The quantity of basmati rice = 5,84,768 tons
The quantity of normal rice = − 3,86,970 tons
More quantity of basmati rice = 1,97,798 tons

Therefore the basmati rice is more and by 1,97,797 tons.

(d) The number of literate boys = 9,69,765
The number of literate girls = − 3,50,256
More number of literate boys = 6,19,509

Therefore, 6,19,509 more boys are literate in comparison to the girls.

(e) The quantity of mangoes the state produces = 95,67,876 tons
The quantity of exported mangoes = − 36,76,237 tons
The balance quantity = 58,91,639 tons

Therefore, 58,91,639 tons of mangoes are left.

6. Fill in the blanks :

(a) 1,48,33,669 + 0 = 1,48,33,669
(b) 4,83,267 + 83,297 = 83,297 + 4,83,267
(c) 0 + 1,72,837 = 1,72,837
(d) 6,93,54,725 – 6,93,54,725 = 0
(e) 5,29,84,346 – 40,00,0000 = 1,29,84,346
(f) 9,37,50,375 – 50,376 = 9,36,99,999
(g) 8,27,64,399 – 10,00,000 = 8,17,64,399
(h) 54,82,896 – 10,00,000 = 44,82,896

Exercise 3.3

1. Tick (✓) the correct answer :

(a) (iii) 3,82,285 ✓
(3785 × (100 + 1) = 378500 + 3785 = 3,82,285)

(b) (iii) 4,32,756 ✓

2. Multiply the following :

(a) 5,623 × 4 = 22,492

(b) 18,373 × 6 = 1,10,238

(c) 5,744 × 7 = 40,208

(d) 7,586 × 13 = 22,758 + 75,860 = 98,618

(e) 15,749 × 26 = 94,494 + 3,14,980 = 4,09,474

(f) 2,64,351 × 5 = 13,21,755

3. Find the product :

(a) 5,38,746 × 23 = 16,16,238 + 1,07,74,920 = 1,23,91,158

(b) 30,46,762 × 32 = 60,93,524 + 9,14,02,860 = 9,74,96,384

(c) 86,13,142 × 94 = 3,44,52,568 + 77,51,82,780 = 80,96,35,348

(d) 37,965 × 205 = 1,89,825 + 0,00,000 + 75,93,000 = 77,82,825

(e) 1,48,796 × 124 = 5,95,184 + 29,75,920 + 1,48,79,600 = 1,84,50,704

(f) 2,84,009 × 208 = 22,72,072 + 00,00,000 + 5,68,01,800 = 5,90,73,872

4. Multiply the following :

(a) 67,581 × 326 = 4,05,486 + 13,51,620 + 2,02,74,300 = 2,20,31,406

(b) 27,843 × 987 = 1,94,901 + 22,27,440 + 2,50,58,700 = 2,74,81,041

(c) 1,32,117 × 612 = 2,64,234 + 13,21,170 + 7,92,70,200 = 8,08,55,604

(d) 27,92,834 × 237 = 1,95,49,838 + 8,37,85,020 + 55,85,66,800 = 66,19,01,658

(e) 54,896 × 1,856 = 3,29,376 + 27,44,800 + 4,39,16,800 + 5,48,96,000 = 10,18,86,976

(f) 2,73,821 × 2,005 = 13,69,105 + 00,00,000 + 0,00,00,000 + 54,76,42,000 = 54,90,11,105

5. Solve the following word problems :

(a) The cost f 1 bottle of oil = ` 147
The cost of 50 bottles of oil = ` (147 × 50)
= ` 7,350
So, the shopkeeper made ` 7,350

147 × 50 = 000 + 7,350 = 7,350

(b) The number of minutes in 1 hour = 60
The number of minutes in 1 day = 24
The number of minutes in 24 hour = 60 × 24
= 1,440

60 × 24 = 240 + 1200 = 1,440

The number of seconds in 1 minute = 60
The number of seconds in 1,440 minutes = 1,440 × 60
= 86,400

1440 × 60 = 0000 + 86,400 = 86,400

So, the number of seconds in 1 day is 86,400

(c) The number of students = 1,597
The fee each student pays in 1 quarter = ` 7,659
The fee each students pays in 1 year or 4 quarters
= ` (7,659 × 4)
= ` 30,636
The fee 1,597 students pay in 1 year = ` (30636 × 1,597)
= ` 4,89,25,692

30,636 × 1,597 = 2,14,452 + 27,57,240 + 1,53,18,000 + 30636000 = 4,89,25,692

So, ` 4,89,25,692 are collected in a year.

Exercise 3.4

Fill in the blanks :

1. 5,000 × 100 = **5,00,000**
2. 3,842 × 30 = 3,842 × 3 × 10 = 11,526 × 10 = **1,15,260**
3. 8,96,567 × 0 = **0**
4. 3,000 × 1,000 = **30,00,000**
5. 1,500 × 400 = 1,500 × 4 × 100 = 6,000 × 100 = **6,00,000**
6. 83,670 × 200 = 83,670 × 2 × 100 = 1, 67,340 × 100 = **1,67,34,000**
7. 240 × 40 = 240 × 4 × 10 = 960 × 10 = **9,600**
8. 40,000 × **80** = 32,00,000
9. 80 × **500** = 40,000
10. 900 × **8,000** = 72,00,000

Exercise 3.5

1. Find the quotient and remainder and check your answers :

[Hint : Use for checking : (Divisor × Quotient) + Remainder = Dividend]

(a) 15,435 ÷ 1154

$$1154\overline{)15435}(13$$
$$-1154$$
$$3895$$
$$-3462$$
$$433$$

Quotient = 13, Remainder = 433
Checking : (13 × 1,154) + 433 = 15,435
15,002 + 433 = 15,435
So, the answer is correct.

1154 × 13 = 3462 + 11540 = 15002

(b) 50,976 ÷ 75

$$75\overline{)50976}(679$$
$$-450$$
$$597$$
$$-726$$
$$726$$
$$-675$$
$$51$$

Quotient = 679, Remainder = 51
Checking : $(75 \times 679) + 51 = 50,976$
$50,925 + 51 = 50,976$
So, the answer is correct.

679
× 75
3395
+ 47530
50925

(c) 53,82,695 ÷ 87

$$\begin{array}{r|l} 87 & 5382695 \\ -522 & 61870 \\ \hline 162 & \\ -87 & \\ \hline 756 & \\ -696 & \\ \hline 609 & \\ -609 & \\ \hline 05 & \end{array}$$

Quotient = 61,870, Remainder = 5
Checking : $(87 \times 61,870) + 5 = 53,82,695$
$53,82,690 + 5 = 53,82,695$
So, the answer is correct.

61870
× 87
433090
+ 9449600
5382690

(d) 7,63,800 ÷ 96

$$\begin{array}{r|l} 96 & 763800 \\ -672 & 7956 \\ \hline 918 & \\ -864 & \\ \hline 540 & \\ -480 & \\ \hline 600 & \\ -576 & \\ \hline 24 & \end{array}$$

Quotient = 7,956, Remainder = 24
Checking : $(96 \times 7,956) + 24 = 7,63,800$
$7,63,676 + 24 = 7,63,800$
So, the answer is correct.

7956
× 96
47736
+ 715940
763676

(e) 82,03,015 ÷ 695

$$\begin{array}{r|l} 695 & 8203015 \\ -695 & 11802 \\ \hline 1253 & \\ -695 & \\ \hline 5580 & \\ -5560 & \\ \hline 2015 & \\ -1390 & \\ \hline 625 & \end{array}$$

Quotient = 11,802, Remainder = 625
Checking : $(695 \times 11,802) + 625 = 82,03,015$
$8202390 + 625 = 82,03,015$

11802
× 695
59010
1062180
+ 7081200
8202390

(f) 69,27,813 ÷ 259

$$\begin{array}{r|l} 259 & 6927813 \\ -518 & 26748 \\ \hline 1747 & \\ -1554 & \\ \hline 1938 & \\ -1813 & \\ \hline 1251 & \\ -1036 & \\ \hline 2153 & \\ 2072 & \\ \hline 81 & \end{array}$$

Quotient = 26,748, Remainder = 81
Checking : $(259 \times 26,748) + 81 = 69,27,813$
$69,27,732 + 81 = 69,27,813$
So, the answer is correct.

26748
× 259
240732
1337400
+ 5349600
6927732

(g) 3,21,796 ÷ 623

$$\begin{array}{r|l} 623 & 321796 \\ -3115 & 516 \\ \hline 1029 & \\ -623 & \\ \hline 4066 & \\ -3738 & \\ \hline 328 & \end{array}$$

Quotient = 516, Remainder = 328
Checking : $(623 \times 516) + 328 = 3,21,796$
$3,21,468 + 328 = 3,21,796$
So, the answer is correct.

623
× 516
3738
6230
+ 311500
321468

(h) 20,17,608 ÷ 567

$$\begin{array}{r|l} 567 & 2017608 \\ -1701 & 3558 \\ \hline 3166 & \\ -2835 & \\ \hline 3310 & \\ -2835 & \\ \hline 4758 & \\ -4536 & \\ \hline 222 & \end{array}$$

Quotient = 3,558 Remainder = 222
Checking : $(567 \times 3,558) + 222 = 20,17,608$
$20,17,386 + 222 = 20,17,608$
So, the answer is correct.

3558
× 567
24906
213480
+ 1779000
2017386

(i) 76,05,486 ÷ 249

$$\begin{array}{r} 249\overline{)7605486}(30544 \\ -747 \\ \hline 1354 \\ -1245 \\ \hline 1098 \\ -996 \\ \hline 1026 \\ -996 \\ \hline 30 \end{array}$$

Quotient = 30,544; Remainder = 30

Checking : (249 × 30,544) + 30 = 76,05,486

76,05,456 + 30 = 76,05,486

So, the answer is correct.

$$\begin{array}{r} 30544 \\ \times\ 249 \\ \hline 274896 \\ 1221760 \\ +\ 6108800 \\ \hline 7605456 \end{array}$$

2. Find the dividend when :

[Hint : Dividend = (Divisor × Quotient) + Remainder]

(a) Dividend = (273 × 20,632) + 100

= 56,32,536 + 100

= 56,32,636

$$\begin{array}{r} 20632 \\ \times\ 273 \\ \hline 61896 \\ 1444240 \\ +\ 4126400 \\ \hline 5632536 \end{array}$$

(b) Dividend = (763 × 9,857) + 93

= 75,20,891 + 93

= 75,20,984

$$\begin{array}{r} 9857 \\ \times\ 763 \\ \hline 29571 \\ 591420 \\ +\ 6899900 \\ \hline 7520891 \end{array}$$

(c) Dividend = (187 × 3,077) + 6

= 5,75,399 + 6

= 5,75,405

$$\begin{array}{r} 3077 \\ \times\ 187 \\ \hline 21539 \\ 246160 \\ +\ 307700 \\ \hline 575399 \end{array}$$

3. Solve the following problems :

(a) The company needs to make in 211 days = 53,594 shirts

The company needs to make in 1 day = (53,594 ÷ 211) shirts = 254 shirts

$$\begin{array}{r} 211\overline{)53594}(254 \\ -422 \\ \hline 1139 \\ -1055 \\ \hline 844 \\ -844 \\ \hline 00 \end{array}$$

Therefore, the company needs to make 254 shirts per day.

(b) The cost of the school trip for 450 students = ` 87,750

The cost of the school trip for 1 student = ` (87,750 ÷ 450) = ` 195

$$\begin{array}{r} 450\overline{)87750}(195 \\ -450 \\ \hline 4275 \\ -4050 \\ \hline 2250 \\ -2050 \\ \hline 00 \end{array}$$

Therefore, each student paid ` 195 for the trip.

(c) We have, Quotient = Dividend ÷ Divisor

According to question, Dividend = 78,97,890

Divisor = 789

and Quotient is the desired number = 10,010

$$\begin{array}{r} 789\overline{)7897890}(10010 \\ -789 \\ \hline 0798 \\ -798 \\ \hline 00 \end{array}$$

Therefore, 789 must be multiplied with 10,010 to give 78,97,890

(d) Total cost of 50 air tickets to Chennai = ` 1,78,000

The cost of 1 air ticket to Chennai = ` (1,78,000 ÷ 50)

$$\begin{array}{r} 50\overline{)178000}(3560 \\ -150 \\ \hline 280 \\ -250 \\ \hline 300 \\ -300 \\ \hline 00 \end{array}$$

Therefore, the cost of one ticket to Chennai is ` 3,560.

Exercise 3.6

1. Find the quotient and remainder :

(a) 56,748 ÷ 10

Quotient = 5,674; Remainder = 8

(b) 9,32,465 ÷ 100

Quotient = 9,324; Remainder = 65

(c) 19,73,107 ÷ 10,000

Quotient = 197; remainder = 3107

(d) 8,28,96275 ÷ 1,00,000

Quotient = 828, Remainder = 96,275

(e) 394 ÷ 10

Quotient = 39, Remainder = 4

(f) 5,367 ÷ 100

Quotient = 53, Remainder = 67

(g) 8,59,76,431 ÷ 10,00,000
Quotient = 85, Remainder = 9,76,431

(h) 2,50,036 ÷ 1000
Quotient = 250, Remainder = 36

2. Fill in the blanks :

(a) 56,71,000 ÷ 100 = 56710

(b) 31,93,74,500 ÷ 100 = 3193745

(c) 15,10,000 ÷ 1 = 1510000

(d) 2,39,675 ÷ 0 = 0

(e) 1,81,30,000 ÷ 1000 = 18130

(f) 82,671 ÷ 82,671 = 1

(g) 7,89,30,000 ÷ 10,000 = 7893

(h) 2,00,000 ÷ 100000 = 2

Exercise 3.7

1. Round off to of the nearest ten thousands and estimate :

(a) 78,562 – 52,462

78,562 → (rounded off to) → 80,000

52,462 → (rounded off to) → 50,000

Estimated difference = 80,000 – 50,000 = 30,000

(b) 39,486 – 32,186

39,486 → (rounded off to) → 40,000

32,186 → (rounded off to) → 30,000

Estimated difference = 40,000 – 30,000 = 10,000

(c) 13,942 – 11,787

13,942 → (rounded off to) → 10,000

11,787 → (rounded off to) → 10,000

Estimated difference = 10,000 – 10,000 = 0

2. Estimate the product by rounding of to the nearest 1,000 :

(a) 8691 × 1234

8691 → (rounded off to) → 9000

1234 → (rounded off to) → 1000

Estimated product = 9000 × 1000 = 90,00,000

(b) 6120 × 3891

6120 → (rounded off to) → 6000

3891 → (rounded off to) → 4000

Estimated product = 6000 × 4000 = 2,40,00,000

(c) 3971 × 4326

3971 → (rounded off to) → 4000

4326 → (rounded off to) → 4000

Estimated product = 4000 × 4000 = 1,60,00,0000

3. Estimate the quotient by rounding off to the nearest thousand :

(a) 5825 ÷ 2125

5825 → (rounded off to) → 6000

2125 → (rounded off to) → 2000

Estimated product = 6000 ÷ 2000 = 3

(b) 4236 ÷ 1983

4236 → (rounded off to) → 4000

1983 → (rounded off to) → 2000

Estimated product = 4000 ÷ 2000 = 2

(c) 8125 ÷ 3965

8125 → (rounded off to) → 8000

3965 → (rounded off to) → 4000

Estimated product = 8000 ÷ 4000 = 2

4. Estimate the quotient by rounding off to the nearest lakh :

(a) 56,75,321 ÷ 4,95,861

56,75,321 → (rounded off to) → 57,00,000

4,95,861 → (rounded off to) → 5,00,000

Estimated quotient = 57,00,000 ÷ 5,00,000 = 11.4

(b) 26,43,841 ÷ 13,10,211

26,43,841 → (rounded off to) → 26,00,000

13,10,211 → (rounded off to) → 13,00,000

Estimated quotient = 26,00,000 ÷ 13,00,000 = 2

5. Tick (✓) the correct answer :

(a) Weight of sugar in 1 bag 96 kg → (rounded off to) → 100 kg

The number of bags, 48 → (rounded off to) → 50

So, the estimated weight of bags = (100 × 50) kg = 5000 kg

Answer : (i) 5000 kg ✓

(b) The number of cricket balls, 342 → (rounded off to) → 300

The cost of 1 ball, ` 291 → (rounded off to) → ` 300

So, the estimate amount, Sweta has to pay = ` (300 × 300) = ` 90,000

Answer : (i) ` 90,000 ✓

6. Solve the following problems and find the actual and estimated answers :

(a) **For actual answer :**

Wheat produced by state 1 = 86,25,965 tons

Wheat produced by state 2 = + 74,25,691 tons

The total production = 1,60,51,656 tons

For estimate answer :

Wheat produced by state – 1

= 86,25,965 tons → (rounded off to) → 90,00,000 tons

Wheat produced by state – 2

= 74,25,691 tons → (rounded off to) → 70,00,000 tons

Total estimated production = (90,00,000 + 70,00,000) tons = 1,60,00,000 tons

So, the actual quantity of wheat produced = 1,60,51,656 tons

and, the estimated quantity of wheat produced = 1,60,00,000 tons

(b) **For actual answer :**

The number of girls studying in primary school = 3,22,596

The number of girls studying in middle schools = + 3,76,998

The total number of girls = 6,99,594

For estimated answer :

The number of girls studying in primary schools
= 3,22,596 → (rounded off to) → 3,00,000
The number of girls studying in middle schools
= 3,76,988 → (rounded off to) → 4,00,000
The estimated number of girls = 3,00,000 + 4,00,000
= 7,00,000
So, the actual number of girls studying in primary and middle schools together = 6,99,594
and, the estimated number of girls studying in primary and middle schools together = 7,00,000

(c) **For actual answer :**

The quantity of tomatoes =	1,28,792 kg
The quantity of potatoes =	2,86,742 kg
The quantity of onions =	+ 5,23,241 kg
Total quantity =	9,38,775 kg

For estimated answer :

The quantity of tomatoes
= 1,28,792 kg → (rounded off to) → 1,00,000 kg
The quantity of potatoes
= 2,86,742 kg → (rounded off to) → 3,00,000 kg
The quantity of onions
= 5,23,241 kg → (rounded off to) → 5,00,000 kg
The estimated quantity = (1,00,000 + 3,00,000 + 5,00,000) kg
= 9,00,000 kg
So, the actual quantity of these three vegetables
= 9,38,775 kg
and the estimated quantity of these three vegetables
= 9,00,000 kg

Exercise 3.8

1. Simplify :

(a) 3320 ÷ 83 × 40
= 40 × 40 = 1600

(b) 5896 × 40208 ÷ 359
5896 × 112 = 6,60,352

(c) 979 × 7,73,090 ÷ 970
979 × 797 = 7,80,263

(d) (35 + 47) × 75
82 × 75 = 6150

(e) 4928 ÷ (80 – 48)
= 4928 ÷ 32
= 154

(f) (72 × 168) ÷ 21 of 16
= 12,096 ÷ 21 of 16
= 12,096 ÷ 336 = 36

(g) 4658 × 137 – 57456 ÷ 48 × 178
= 6,38,146 – 1197 × 178
= 6,38,148 – 2,13,066
= 4,25,080

(h) 9000 ÷ 30 of 30 + 750 ÷ 250
= 9000 ÷ 900 + 3
= 10 + 3 = 13

2. Write T for true and F for false statements :

(a) (13 × 8) – 6 = 13 × (8 – 6)
L.H.S. (Left Hand Side) = (13 × 8) – 6 = 104 – 6 = 98
R.H.S. (Right Hand Side) = 13 × (8 – 6) = 13 × 2 = 26
L.H.S. is not equal to R.H.S.
Answer : 'F'

(b) 96 ÷ (8 × 12) = (96 ÷ 8) × 12
L.H.S. = 96 ÷ (8 × 12) = 96 ÷ 96 = 1
R.H.S. = (96 ÷ 8) × 12 = 12 × 12 = 144
L.H.S. is not equal to R.H.S.
Answer : 'F'

(c) 86 × 39 ÷ 13 = 86 × (39 ÷ 13)
L.H.S. = 86 × 39 ÷ 13 = 86 × 3 = 258
R.H.S. = 86 × (39 ÷ 13) = 86 × 3 = 258
L.H.S. = R.H.S.
Answer : 'T'

(d) (125 × 32) ÷ 8 = 125 of (32 ÷ 8)
L.H.S. = (125 × 32) ÷ 8 = 4000 ÷ 8 = 500
R.H.S. = 125 of (32 ÷ 8) = 125 of 4 = 500
L.H.S. =to R.H.S.
Answer : 'T'

Revision

1. Solve :

(a)
```
  9928041
+29864752
 39792793
```

(b)
```
 24007856
– 3982751
2,00,25,105
```

(c) 8329457 + 3596457 – 1129854

```
  8329457
+ 3596457
 11925914
```

```
 11925914
– 1129854
 10796060
```

= 11925914 – 1129854 = 1,07,96,060
Answers : 1,07,96,060

(d) 3251649 – 156794 – 11329
= 3251649 – (156794 + 11329)
= 3251649 – 168123
= 30,83,526

```
 156794
+ 11329
 168213
```

```
 3251649
– 168123
 3083526
```

(e)
```
  100284
×    408
 802272
 0000000
+ 40113600
 40915872
```

(f)
```
698)74892608(107296
  –698
   5092
  – 4886
    2066
   – 1396
     6700
   – 6282
      4188
    – 4188
       00
```

Quotient = 107296
Remainder = 0

2. (a)
```
 156794
+ 11329
 168123
```

2. (b)
```
  328228
×    473
 984684
 22975960
+ 131291200
 15,52,51,844
```

3. Find the missing numbers :

(a) Dividend = 1584312, Quotient = 263, Remainder = 0
Divisor = ?
We have, Divisor = (Dividend – Remainder) ÷ Quotient
So, Divisor = (1584312 – 0) ÷ 263
= 1584312 ÷ 263
= 6024

```
263)1584312(6024
  -1578
   631
  -526
   1052
  -1052
    00
```

(b) Quotient = 8907, Divisor = 408, Remainder = 96, Dividend = ?
We have, Dividend = (Divisor × Quotient) + Remainder
So, Dividend = (408 × 8907) + 96
= 3634056 + 96
= 36,34,152

```
   8907
 × 408
 71256
 00000
+3562800
 3634056
```

4. The required number = 10000000 – 4893615
= 5106385

```
  10000000
+ 4893615
  5106385
```

Therefore, 5106385 should be added to 4893615 to get 10000000.

5. Largest 7-digit number = 9999999
Largest 3-digit number = 999

```
999)9999999(10010
  -999
   0999
  -999
    09
```

Quotient = 10010; remainder = 9

6.
```
The money spent on roads =          ` 24284365
The money spent on health =       + ` 18769590
The total money spent on both =     ` 43053955
The granted money =                 ` 50000000
The money spent on roads and health = – ` 43053955
The balance money =                 ` 6946045
```

So, ` 69,46,045 was used to build the hospital.

7.
```
The cost of the car =          ` 265000
Nitish paid =                – ` 261220
The remainder amount =         ` 3780
```

So, the total amount of 6 equal installments = ` 3780
The amount of 1 installment = ` (3780 ÷ 6) = ` 630

```
6)3780(630
 -36
  188
 -188
   000
```

Therefore the amount of each installment is ` 630.

8. (a) The capacity of 1 tank = 500 litres of water
The capacity of 30 tanks = (30 × 500) litres of water
= 15,000 litres of waters.
So, 15,000 litres of water will be filled in such 30 tanks

(b) The number of buckets that can be filled with 1 tanks of water = 25
The number of buckets that can be filled with 30 tanks of water = 25 × 30
= 750
So, 750 buckets can be filled with 30 tanks of water.

9. Simplify the following :

(a) 97 × 26 ÷ 13 + 27 × 7
= 97 × 2 + 27 × 7
= 194 + 189 = 383

(b) 290 + 5 × (700 ÷ 70)
= 290 + 5 × 10
= 290 + 50 = 340

(c) (72 × 168) ÷ 21 of 16
= 12096 ÷ 21 of 16
= 12096 ÷ 336 = 36

(d) (487 – 336) × 65
= 151 × 65
= 9815

(e) {17 × (168 – 128)} – 463
= {17 × 40} – 463
= 680 – 463 = 217

(f) {17 × (112 – 78)} ÷ 289
= {17 × 34} ÷ 289
= 578 ÷ 289 = 2

4 Factors and Multiples

Exercise 4.1

1. Check divisibility by 2, 3, 5, 9 and 10. Put a tick (✓) for divisible and a cross (✗) for not divisible :

		Divisible by				
	Number	2	3	5	9	10
(a)	420	✓	✓	✓	✗	✓
(b)	7353	✗	✓	✗	✓	✗
(c)	8970	✓	✓	✓	✗	✓
(d)	45885	✗	✓	✓	✗	✗
(e)	98460	✓	✓	✓	✓	✓

2. Which of the following numbers are divisible by both 3 and 9.

(a) 855
The total of the digits is (8 + 5 + 5 = 18), which is divisible by both 3 (18 ÷ 3 = 6) and 9 (18 ÷ 9 = 2).
So, the number 855 is divisible by both 3 and 9.

(b) 5622
The total of the digits is (5 + 6 + 2 + 2 = 15), which is divisible by 3 (15 ÷ 3 = 5) but not by 9.
So, the number 5622 is not divisible by both 3 and 9.

(c) 876

The total of the digits is (8 + 7 + 6 = 21), which is divisible by 3 (21 ÷ 3 = 7) but not by 9.

So, the number 876 is not divisible by both 3 and 9.

(d) 8001: The total of the digits is (8 + 0 + 0 + 1 = 9), which is divisible by both 3 (9 ÷ 3 =3) and 9 (9 ÷ 9 = 1).

So, the number 8001 is divisible by both 3 and 9.

3. We have "a number is divisible by 2 if the digit at its ones place is 0, 2, 4, 6 or 8", so 2554 and 836 both are divisible by 2, because they have 4 and 6 at their ones place, respectively. The sum of the numbers (2554 + 836 = 3390) has 0 at its ones place, so it is also divisible by 2. The difference of the numbers (2554 – 836 = 1718) has 8 at its ones place, so it is also divisible by 2.

Exercise 4.2

1. List all prime and composite numbers which are :

(a) Less than 20

Prime numbers: 2, 3, 5, 7, 11, 13, 17, 19.

Composite numbers: 4, 6, 8, 9, 10, 12, 14, 15, 16, 18.

(b) Between 30 and 40

Prime numbers: 31, 37

Composite numbers: 32, 33, 34, 35, 36, 38, 39.

(c) Between 40 and 54

Prime numbers: 41, 43, 47, 53.

Composite numbers: 42, 44, 45, 46, 48, 49, 50, 51, 52.

(d) More than 78, less than 90

Prime numbers: 79, 83, 89.

Composite numbers: 80, 81, 82, 84, 85, 86, 87, 88

2. Express prime numbers as the sum of three prime numbers :

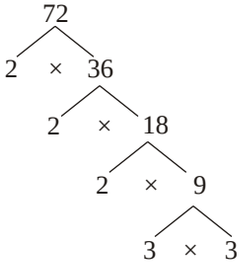
(a) 23 = 11 + 7 + 5 (b) 31= 19 + 7 + 5

(c) 59 = 47 + 7 + 5 (d) 67 = 47 +13 + 7

3. Pick out the composite numbers and find their prime factors using factor tree method :

(a) 13 is a prime number.

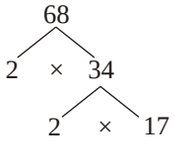
(b) 72 :



So, the prime factors of 72 are 2, 2, 2, 3 and 3.

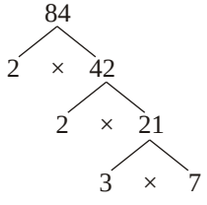
(c) 53 is a prime number.

(d) 68 :



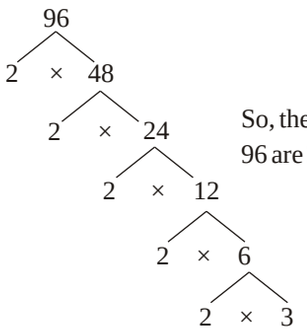
So, the prime factors of 68 are 2, 2 and 17.

(e) 84 :



So, the prime factors of 84 are 2,2,3 and 7

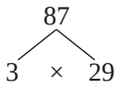
(f) 96:



So, the prime factors of 96 are 2, 2, 2, 2, 2 and 3.

(g) 79 is a prime number.

(h) 87



So, the prime factors of 87 are 3 and 29.

4. The two pairs of prime numbers which have a difference of 2 are 11 and 13, and 29 and 31. These numbers are called twin primes.

5. Write prime factorisation of the following numbers using division method :

(a) Prime factorization of 60 = 2 × 2 × 3 × 5

2	60
2	30
3	15
5	5
	1

(b) Prime factorization of 77 =7×11

7	77
11	11
	1

(c) Prime factorization of 105 =3×5×7

3	105
5	35
7	7
	1

(d) Prime factorization of 128 =2×2×2×2×2×2×2

2	128
2	64
2	32
2	16
2	8
2	4
2	2
	1

(e) Prime factorization of 216 = 2×2×2×3×3×3

2	216
2	108
2	54
3	27
3	9
3	3
	1

(f) Prime factorization of 356 = 2×2×89

2	356
2	178
89	89
	1

(g) Prime factorization of 250 = 2×5×5×5

2	250
5	125
5	25
5	5
	1

(h) Prime factorization of 325 = 5×5×13

5	325
5	65
13	13
	1

Exercise 4.3

1. Find the HCF of the following numbers, using factor method :

(a) 8, 10

Factors of 8 = 1, 2, 4, 8

Factors of 10 =1, 2, 5, 10

Common factors of 8 and 10 = 1 and 2

Thus, the HCF of 8 and 10 = 2

(b) 6,14

Factors of 6 = 1, 2, 3, 6

Factors of 14 = 1, 2, 7, 14

Common factors of 6 and 16 = 1 and 2

Thus, the HCF of 6 and 16 = 2

(c) 20, 72

Factors of 20 = 1, 2, 4, 5, 10, 20

Factors of 72 = 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72

Common factors of 20 and 72 = 1, 2 and 4

Thus, the HCF of 20 and 72 = 4

(d) 36, 90

Factors of 36 = 1, 2, 3, 4, 6, 9, 12, 18, 36

Factors of 90 = 1, 2, 3, 5, 6, 9, 10, 15, 18, 30, 45, 90

Common factors of 36 and 90 = 1, 2,3,6,9 and 18

Thus, the HCF of 36 and 90 = 18

(e) 7, 21

Factor of 7 = 1, 7

Factor of 21 = 1, 3, 7, 21

Common factors of 7 and 21 = 1 and 7

Thus, the HCF of 7 and 21 = 7

(f) 100, 150

Factors of 100 = 1, 2, 4, 5, 10, 20, 25, 50, 100

Factors of 150 = 1, 2, 3, 5, 6, 10, 15, 25, 30, 50, 75, 150

Common factors of 100 and 150 = 1, 2, 5, 10, 25 and 50

Thus, the HCF of 100 and 150 = 50

(g) 90,108

Factors of 90 = 1, 2, 3, 5, 6, 9, 10, 15, 18, 30, 45, 90

Factors of 108 = 1, 2, 3, 4, 6, 9, 12, 18, 27, 36, 54, 108

Common factors of 90 and 108 = 1, 2, 3, 6, 9, 18

Thus, the HCF of 90 and 108 = 18

(h) 48, 72

Factors of 48 = 1, 2, 3, 4, 6, 8, 12, 16, 24, 48

Factors of 72 = 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72

Common factors of 48 and 72 = 1, 2,3,4,6,8,12 and 24

Thus, the HCF of 48 and 72 =24

(i) 12,18,30

Factors of 12 = 1,2,3,4,6,12

Factors of 18 = 1,2,3,6,9,18

Factors of 30 = 1, 2, 3, 5, 6, 10, 15, 30

Common factors of 12, 18 and 30 = 1, 2, 3 and 6

Thus, the HCF of 12, 18 and 30 = 6

(j) 10,15,25

Factors of 10 = 1,2,5,10

Factors of 15 = 1, 3,5,15

Factors of 25 = 1,5,25

Common factors of 10, 15 and 25 = 1 and 5

Thus, the HCF of 10, 15 and 25 = 5

(k) 8,12,16

Factors of 8 = 1,2,4,8

Factors of 12 = 1,2,3,4,6,12

Factors of 16 = 1, 2, 4,8,16

Common factors of 8, 12 and 16 = 1, 2 and 4

Thus, the HCF of 8, 12 and 16 = 4

(l) 16,72,80 :

Factors of 16 = 1,2,4,8,16

Factors of 72 = 1,2,3,4,6,8,9,12,18,24,36,72

Factors of 80 = 1, 2, 4,5,8,10,16,20,40,80

Common factors of 16, 72 and 80 = 1, 2, 4 and 8

Thus, the HCF of 16, 72 and 80 = 8

2. Do yourself

3. Find the HCF of the following numbers, using prime factorization method:

(a) 28,84

The prime factors of 28 = 2×2×7

The prime factors of 84 = 2×2×3×7

Common prime factor of 28 and 84 = 2×2×7

Working :

2	28
2	14
7	7
	1

2	84
2	42
3	21
7	7
	1

Thus, the HCF of 28 and 84 is (2×2×7=) 28 .

(b) 32, 64

The prime factors of 32 = 2×2×2×2×2

The prime factors of 64 = 2×2×2×2×2×2

Common prime factors of 32 and 64 = 2×2×2×2×2

Working

2	32
2	16
2	8
2	4
2	2
	1

2	64
2	32
2	16
2	8
2	4
2	2
	1

Thus the HCF of 32 and 64 is (2×2×2×2×2=) 32.

(c) 90, 105

The prime factors of 90 = 2×3×3×5

The prime factors of 105 = 3×5×7

Common prime factors of 90 and 105 = 3×5

Working

2	90
3	45
3	15
5	5
	1

3	105
5	35
7	7
	1

Thus, the HCF of 90 and 105 is (3×5=) 15.

(d) 75, 180

The prime factors of 75 = 3×5×5

The prime factors of 180 = 2×2×3×3×5

Common prime factors of 75 and 180 = 3×5

Working

3	75
5	25
5	5
	1

2	180
2	90
3	45
3	15
5	5
	1

Thus, the HCF of 75 and 180 is (3×5=) 15.

(e) 56,98

The prime factors of 56 = 2×2×2×7

The prime factors of 98 = 2×7×7

Common prime factors of 56 and 98 = 2×7

Working

2	56
2	28
2	14
7	7
	1

2	98
7	49
7	7
	1

Thus, the HCF of 56 and 98 is (2×7=) 14.

(f) 60,75

The prime factors of 60 = 2×2×3×5

The prime factors of 75 = 3×5×5

Common prime factors of 60 and 75 = 3×5

Working

2	60
2	30
3	15
5	5
	1

3	75
5	25
5	5
	1

Thus, the HCF of 60 and 75 is (3×5=) 15.

(g) 90, 180 : The prime factors of 90 = 2×3×3×5

The prime factors of 180= 2×2×3×3×5

Common prime factors of 90 and 180 = 2×3×3×5

Working

2	90
3	45
3	15
5	5
	1

2	180
2	90
3	45
3	15
5	5
	1

Thus, the HCF of 90 and 180 is (2×3×3×5=) 90.

(h) 24,96,48 : The prime factors of 24 = 2×2×2×3

The prime factors of 96 = 2×2×2×2×2×3

The prime factors of 48 = 2×2×2×2×3

Common prime factors of 24, 96 and 48 = 2×2×2×3

Working

2	24
2	12
2	6
3	3
	1

2	96
2	48
2	24
2	12
2	6
3	3
	1

2	48
2	24
2	12
2	6
3	3
	1

Thus, the HCF of 24, 96 and 48 is (2×2×2×3=) 24.

(i) 32,128,64 : The prime factors of 32 = 2×2×2×2×2

The prime factors of 128 = 2×2×2×2×2×2×2

The prime factors of 64 = 2×2×2×2×2×2

Common prime factors of 32, 128 and 64 = 2×2×2×2×2

Working

2	32
2	16
2	8
2	4
2	2
	1

2	128
2	64
2	32
2	16
2	8
2	4
2	2
	1

2	64
2	32
2	16
2	8
2	4
2	2
	1

Thus, the HCF of 32, 128 and 64 is (2×2×2×2×2=) 32.

(j) 72,108,112 : The prime factors of 72 = 2×2×2×3×3

The prime factors of 108 = 2×2×3×3×3

The prime factors of 112 = 2×2×2×2×7

Common prime factors of 72,108 and 112 = 2×2

Working

2	72
2	36
2	18
3	9
3	3
	1

2	108
2	54
3	27
3	9
3	3
	1

2	112
2	56
2	28
2	14
7	7
	1

Thus, the HCF of 72, 108,and 112 is (2×2=)4.

(k) 91,49,112 : The prime factors of 91 = 7×13

The prime factors of 49= 7×7

The prime factors of 112 = 2×2×2×2×7

Common prime factors of 91, 49 and 112 = 7

Working

7	91
13	13
	1

7	49
7	7
	1

2	112
2	56
2	28
2	14
7	7
	1

Thus, the HCF of 91, 49 and 112 is 7.

(l) 240, 60,180 : The prime factors of 240 = 2×2×2×2×3×5
The prime factors of 60 = 2×2×3×5
The prime factors of 180 = 2×2×3×3×5
Common prime factors of 240, 60 and 180 = 2×2×3×5

Working

2	240
2	120
2	60
2	30
3	15
5	5
	1

2	60
2	30
3	15
5	5
	1

2	180
2	90
3	45
3	15
5	5
	1

Thus, the HCF of 240,60 and 180 is (2×2×3×5=) 60.

4. Find the HCF of the following numbers, using long division method :

(a) 75, 100: Here the first divisor is 75.

$$\begin{array}{r} 75\overline{)100}(1 \\ -\ 75 \\ \hline 25\overline{)75}(3 \\ -75 \\ \hline 0 \end{array}$$

Here the last divisor is 25.

Thus, the HCF of 75 and 100 is 25.

(b) 55, 88: Here the first divisor is 55.

$$\begin{array}{r} 55\overline{)88}(1 \\ -55 \\ \hline 33\overline{)55}(1 \\ -33 \\ \hline 22\overline{)33}(1 \\ -22 \\ \hline 11\overline{)22}(2 \\ -22 \\ \hline 0 \end{array}$$

Here the last divisor is 11.

Thus, the HCF of 55 and 88 is 11.

(c) 15, 18: Here the first divisor is 15.

$$\begin{array}{r} 15\overline{)18}(1 \\ -15 \\ \hline 3\overline{)15}(5 \\ -15 \\ \hline 0 \end{array}$$

Here the last divisor is 3.

Thus, the HCF of 15 and 18 is 3.

(d) 27, 81; Here the first divisor is 27

$$\begin{array}{r} 27\overline{)81}(3 \\ -81 \\ \hline 0 \end{array}$$

Here the last divisor is also 27.

Thus, the HCF of 27 and 81 is 27.

(e) 121, 132: Here the first divisor is 121.

$$\begin{array}{r} 121\overline{)132}(1 \\ -121 \\ \hline 11\overline{)121}(1 \\ -\ 11 \\ \hline 11\overline{)11}(1 \\ -11 \\ \hline 0 \end{array}$$

Here the last divisor is 11.

Thus, the HCF of 121 and 132 is 11.

(f) 140, 350: Here the first divisor is 140.

$$\begin{array}{r} 140\overline{)350}(2 \\ -280 \\ \hline 70\overline{)140}(2 \\ -140 \\ \hline 0 \end{array}$$

Here the last divisor is 70.

Thus, the HCF of 140 and 350 is 70.

(g) 364, 576 : Here the first divisor is 364

$$\begin{array}{r} 364\overline{)576}(1 \\ -364 \\ \hline 212\overline{)364}(1 \\ -212 \\ \hline 152\overline{)212}(1 \\ -152 \\ \hline 60\overline{)152}(2 \\ -120 \\ \hline 32\overline{)60}(2 \\ -32 \\ \hline 28\overline{)32}(1 \\ -28 \\ \hline 4\overline{)28}(7 \\ -28 \\ \hline 0 \end{array}$$

Here the last divisor is 4.

Thus, the HCF of 364 and 576 is 4.

(h) 275, 450: Here the first divisor is 275.

$$\begin{array}{r} 275\overline{)450}(1 \\ -275 \\ \hline 175\overline{)275}(1 \\ -175 \\ \hline 100\overline{)175}(1 \\ -100 \\ \hline 75\overline{)100}(1 \\ -\ 75 \\ \hline 25\overline{)75}(3 \\ -75 \\ \hline 0 \end{array}$$

Here the last divisor is 25.

Thus, the HCF of 275 and 450 is 25.

(i) 64,128,32 : Here the first divisor is 32

$$32\overline{)64}(2 \quad -64 \quad 0 \qquad 32\overline{)128}(4 \quad -128 \quad 0$$

Here the last divisor is also 32.

Thus, the HCF of 64,128 and 32 is 32.

(j) 21, 27, 33: Here the first divisor is 21.

$$21\overline{)27}(1 \quad -21 \quad 6\overline{)21}(3 \quad -18 \quad 3\overline{)6}(2 \quad -6 \quad 0$$

Here the last divisor is 3.

$$3\overline{)33}(1 \quad -3 \quad 03\overline{)3}(1 \quad -3 \quad 0$$

Thus, the HCF of 21, 27 and 33 is 3.

(k) 16,72,90 : Here the first divisor is 16

$$16\overline{)72}(4 \quad -64 \quad 8\overline{)16}(2 \quad -16 \quad 0 \qquad 8\overline{)90}(11 \quad -8 \quad 10 \quad -8 \quad 2\overline{)8}(4 \quad -8 \quad 0$$

Here the last divisor is 2.

Thus, the HCF of 16,72 and 90 is 2.

(l) 184, 230, 276: Here the first divisor is 184.

$$184\overline{)230}(1 \quad -184 \quad 46\overline{)184}(4 \quad -184 \quad 0 \qquad 46\overline{)276}(6 \quad -276 \quad 0$$

Here the last divisor is 46.

Thus, the HCF of 184,230 and 276 is 46.

Exercise 4.4

1. (a) –ii, (b) –i, (c) –iv, (d) –v
   (e) –iii (f) –viii, (g) –vi, (h) –vii
   (i) –x, (j) –ix

2. Find the LCM of each of the following , using multiple method :

(a) 2,3

Multiples of 2 = 2, 4, 6, 8, 10, 12, 14,….

Multiples of 3 = 3, 6, 9, 12, 15…

Common multiples of 2 and 3 = 6, 12…

The least common multiple is 6.

Thus, the LCM of 2 and 3 is 6.

(b) 5,7

Multiples of 5 = 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75…

Multiples of 7 = 7, 14, 21, 28, 35, 42, 49, 56, 63, 70,…

Common multiples of 5 and 7 =35, 70,..

The least common multiple is 35.

Thus, the LCM of 5 and 7 is 35.

(c) 6,11

Multiples of 6 = 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96, 102, 108, 114, 120, 126, 132, 138,….

Multiples of 11 = 11, 22, 33, 44, 55, 66, 77, 88, 99, 110, 121, 132…

Common multiples of 6 and 11 = 66,132...

The least common multiple is 66.

Thus, the LCM of 6 and 11 is 66.

(d) 4,3

Multiples of 4 = 4, 8, 12, 16, 20, 24, 28,..

Multiples of 3 = 3, 6, 9, 12, 15, 18, 21, 24…

Common multiples of 4 and 3 = 12, 24…

The least common multiple is 12.

Thus, the LCM of 4 and 3 is 12.

(e) 5, 10, 15

Multiples of 5 = 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65.

Multiples of 10 = 10,20, 30,40,50,60,

Multiples of 15 = 15,30,45,60.

Common multiples of 5, 10 and 15 = 30, 60,…

The least common multiple is 30.

Thus, the LCM of 5, 10 and 15 is 30.

(f) 2, 4, 6

Multiples of 2 = 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26,..

Multiples of 4 = 4, 8, 12, 16, 20, 24,..

Multiples of 6 = 6, 12, 18, 24,..

Common multiples of 2, 4 and 6 = 12, 24,..

The least common multiple is 12.

Thus, the LCM of 2,4 and 6 is 12.

(g) 9,3,7

Multiples of 9 = 9, 18, 27, 36, 45, 54, 63, 72, 81, 90, 99, 108, 117, 126, 135,…

Multiples of 3 = 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57, 60, 63, 66, 69, 72, 75, 78, 81, 84, 87, 90, 93, 96, 99, 102, 105, 108, 111, 114, 117, 120, 123, 126..

Multiples of 7 = 7, 14, 21, 28, 35, 42, 49, 56, 63, 70, 77, 84, 91, 98, 105, 112, 119, 126,…

Common multiples of 9,3 and 7 = 63,26,.

The least common multiple is 63.

Thus, the LCM of 9,3 and 7 is 63.

(h) 8,10,12

Multiples of 8 = 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, 88, 96, 104, 112, 120, 128, 136, 144, 152, 160, 168, 176, 184, 192, 200, 208, 216, 224, 232, 240, 248.

Multiples of 10 = 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240…

Multiples of 12 = 12, 24, 36, 48, 60, 72, 84, 96, 108, 120, 132, 144, 156, 168, 180, 192, 204, 216, 228, 240.

Common multiples of 8, 10 and 12 = 120, 240,..

The least common multiple is 120.

Thus, the LCM of 8,10 and 12 is 120.

(i) 3,5,6

Multiples of 3 = 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 39, 42, 45, 48, 51, 54, 57, 60, 63,…

Multiples of 5 = 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60,..

Multiples of 6 = 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, ...

Common multiples of 3,5 and 6 = 30,60,…

The least common multiple is 30.

Thus, the LCM of 3,5 and 6 is 30.

(j) 4,6,7

Multiples of 4 = 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48, 52, 56, 60, 64, 68, 72, 76, 80, 84, 88, 92, 96, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 144, 148, 152, 156, 160, 164, 168, 172

Multiples of 6 = 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96, 102, 108, 114, 120, 126, 132, 138, 144, 150, 156, 162, 168.

Multiples of 7 = 7, 14, 21, 28, 35, 42, 49, 56, 63, 70, 77, 84, 91, 98, 105, 112, 119, 126, 133, 140, 147, 154, 161, 168.

Common multiples of 4,6 and 7 = 84,168,.....

The least common multiple is 84.

Thus, the LCM of 4,6 and 7 is 84.

(k) 15,20,25

Multiples of 15 = 15, 30, 45, 60, 75, 90, 105, 120, 135, 150, 165, 180, 195, 210, 225, 240, 255, 270, 285, 300, 315, 330, 345, 360, 375, 390, 405, 420, 435, 450, 465, 480, 495, 510, 525, 540, 555, 570, 585, 600, 615.

Multiples of 20 = 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 220, 240,260, 280, 300, 320, 340, 360, 380, 400, 420, 440, 460, 480, 500, 520, 540, 560, 580, 600 ....

Multiples of 25 = 25, 50,75, 100, 125, 150, 175, 200, 225,2 50, 275, 300, 325, 350, 375, 400, 425, 450, 475, 500, 525, 550, 575, 600,…

Common multiples of 15, 20 and 25 = 300,600,…

The least common multiple is 300.

Thus, the LCM of 15, 20 and 25 is 300.

(l) 20,35,40

Multiples of 20 = 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 220, 240, 260, 280, 300, 320, 340, 360, 380, 400, 420, 440, 460, 480, 500, 520, 540, 560, 580, 600, 620, 640, 660, 680, 700, 720, 740, 760, 780, 800, 820, 840, 860, 880, 900, 920, 940, 960, 980, 100, 1020, 1040, 1060, 1080, 1100, 1120, 1140,.....

Multiples of 35 = 35, 70, 105, 140, 175, 210, 245, 280, 315, 350, 385, 420, 455, 490, 525, 560, 595, 630, 665, 700, 735, 770, 805, 840, 875, 910, 945, 980, 1015, 1050, 1085, 1120,..

Multiples of 40 = 40, 80, 120, 160, 200, 240, 280, 320, 360, 400, 440, 480, 520, 560, 600, 640, 680, 720, 760, 800, 840, 880, 920, 960, 1000, 1040, 1080, 1120, ...

Common multiples of 20, 35, and 40 = 560, 1120..,

The least common multiple is 560.

Thus, the LCM of 20, 35 and 40 is 560.

3. Find the LCM of each of the following, using prime factorisation method:

(a) 20,30

Prime factors of 20 = 2 × 2 × 5

Prime factors of 30 = 2 × 3 × 5

Working

2	20
2	10
5	5
	1

2	30
3	15
5	5
	1

Thus, the LCM of 20 and 30 = 2×2×5×3 = 60

(b) 15,25

Prime factors of 15 = 3 × 5

Prime factors of 25 = 5 × 5

Working

3	15
5	5
	1

5	25
5	5
	1

Thus, the LCM of 15 and 25 = 3×5×5 =75

(c) 184,200

Prime factors of 184 = 2 × 2 × 2 × 23

Prime factors of 200 = 2 × 2 × 2 × 5 × 5

Working

2	184
2	92
2	46
23	23
	1

2	200
2	100
2	50
5	25
5	5
	1

Thus, the LCM of 184 and 200 = 2 × 2 × 2 × 5 × 5 × 23 = 4600

(d) 42 , 84

Prime factors of 42 = 2 × 3 × 7

Prime factors of 84 = 2 × 2 × 3 × 7

Working

2	42
3	21
7	7
	1

2	84
2	42
3	21
7	7
	1

Thus, the LCM of 42 and 84 = 2×2×3×7 = 84

(e) 4,8,16

Prime factors of 4 = 2 × 2

Prime factors of 8 = 2 × 2 × 2

Prime factors of 16 = 2 × 2 × 2 × 2

Working

2	4
2	2
	1

2	8
2	4
2	2
	1

2	16
2	8
2	4
2	2
	1

Thus, the LCM of 4,8 and 16 = 2×2×2×2 = 16

(f) 20,60,120

Prime factors of 20 = 2 × 2 × 5

Prime factors of 60 = 2 × 2 × 3 × 5

Prime factors of 120 = 2 × 2 × 2 × 3 × 5

Working

2	20
2	10
5	5
	1

2	60
2	30
3	15
5	5
	1

2	120
2	60
2	30
3	15
5	5
	1

Thus, the LCM of 20,60 and 120 = 2×2×2×3×5 = 120

(g) 15,21,24

Prime factors of 15 = 3 × 5

Prime factors of 21 = 3 × 7

Prime factors of 24 = 2 × 2 × 2 × 3

Working

3	15
5	5
	1

3	21
7	7
	1

2	24
2	12
2	6
3	3
	1

Thus, the LCM of 15, 21 and 24 = 2 × 2 × 2 × 3 × 5 × 7 = 840

(h) 35,49,70

Prime factors of 35 = 5 × 7

Prime factors of 49 = 7 × 7

Prime factors of 70 = 2 × 5 × 7

Working

5	35
7	7
	1

7	49
7	7
	1

2	70
5	35
7	7
	1

Thus, the LCM of 35, 49 and 70 = 2 × 5 × 7 × 7 = 490

(i) 16,20,32

Prime factors of 16 = 2 × 2 × 2 × 2

Prime factors of 20 = 2 × 2 × 5

Prime factors of 32 = 2 × 2 × 2 × 2 × 2

Working

2	16
2	8
2	4
2	2
	1

2	20
2	10
5	5
	1

2	32
2	16
2	8
2	4
2	2
	1

Thus, the LCM of 16,20 and 32 = 2 × 2 × 2 × 2 × 2 × 5 = 160

(j) 64,96,128

Prime factors of 64 = 2 × 2 × 2 × 2 × 2 × 2

Prime factors of 96 = 2 × 2 × 2 × 2 × 2 × 3

Prime factors of 128 = 2 × 2 × 2 × 2 × 2 × 2 × 2

Working

2	64
2	32
2	16
2	8
2	4
2	2
	1

2	96
2	48
2	24
2	12
2	6
3	3
	1

2	128
2	64
2	32
2	16
2	8
2	4
2	2
	1

Thus, the LCM of 64,96 and 128 = 2 × 2 × 2 × 2 × 2 × 2 × 2 × 3 = 384

(k) 15,20,25,30

Prime factors of 15 = 3 × 5

Prime factors of 20 = 2 × 2 × 5

Prime factors of 25 = 5 × 5

Prime factors of 30 = 2 × 3 × 5

Working

3	15
5	5
	1

2	20
2	10
5	5
	1

5	25
5	5
	1

2	30
3	15
5	5
	1

Thus, the LCM of 15,20,25 and 30 = 2 × 2 × 3 × 5 × 5
= 300

(l) 96,72,64,192

Prime factors of 96 = 2 × 2 × 2 × 2 × 2 × 3

Prime factors of 72 = 2 × 2 × 2 × 3 × 3

Prime factors of 64 = 2 × 2 × 2 × 2 × 2 × 2

Prime factors of 192 = 2 × 2 × 2 × 2 × 2 × 2 × 3

Working

2	96
2	48
2	24
2	12
2	6
3	3
	1

2	72
2	36
2	18
3	9
3	3
	1

2	64
2	32
2	16
2	8
2	4
2	2
	1

2	192
2	96
2	48
2	24
2	12
2	6
3	3
	1

Thus, the LCM of 96,72,64 and 192
= 2×2×2×2×2×2×3×3 = 576

4. Find the LCM of each of the following , using long division method :

(a) 35, 49, 70

2	35,	49,	70
5	35,	49,	35
7	7,	49,	7
7	1,	7,	1
	1,	1,	1

Thus, the LCM
$= 2 \times 5 \times 7 \times 7 = 490$

(b) 8,10,25

2	8,	10,	25
2	4,	5,	25
2	2,	5,	25
5	1,	5,	25
5	1,	1,	5
	1,	1,	1

Thus, the LCM
$= 2 \times 2 \times 2 \times 5 \times 5 = 200$

(c) 16,24,32

2	16,	24,	32
2	8,	12,	16
2	4,	6,	8
2	2,	3,	4
2	1,	3,	2
3	1,	3,	1
	1,	1,	1

Thus, the LCM
$= 2 \times 2 \times 2 \times 2 \times 2 \times 3 = 96$

(d) 20,60,120

2	20,	60,	120
2	10,	30,	60
2	5,	15,	30
3	5,	15,	15
5	5,	5,	5
	1,	1,	1

Thus, the LCM
$= 2 \times 2 \times 2 \times 3 \times 5 = 120$

(e) 20,35,40

2	20,	35,	40
2	10,	35,	20
2	5,	35,	10
5	5,	35,	5
7	5,	7,	1
	1,	1,	1

Thus, the LCM
$2 \times 2 \times 2 \times 5 \times 7 = 280$

(f) 18,27,36

2	18,	27,	36
2	9,	27,	18
3	9,	27,	9
3	3,	9,	3
3	1,	3,	1
	1,	1,	1

Thus, the LCM
$= 2 \times 3 \times 5 \times 7 = 210$

(g) 35,70,105

2	35,	70,	105
3	35,	35,	105
5	35,	35,	35
7	7,	7,	7
	1,	1,	1

Thus, the LCM
$= 2 \times 3 \times 5 \times 7 = 210$

(h) 25,39,52 :

2	25,	39,	52
2	25,	39,	26
3	25,	39,	13
5	25,	13,	13
5	5,	13,	13
13	1,	13,	13
	1,	1,	1

Thus, the LCM
$= 2 \times 2 \times 3 \times 5 \times 5 \times 13 = 3900$

(i) 24,32,20,45

2	24,	32,	20,	45
2	12,	16,	10,	45
2	6,	8,	5,	45
2	3,	4,	5,	45
2	3,	2,	5,	45
3	3,	1,	5,	45
3	2,	1,	5,	15
5	1,	1,	5,	5
	1,	1,	1,	1

Thus, the LCM
$= 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 5$
$= 1440$

(j) 42,46,108,144

2	42,	46,	108,	144
2	21,	23,	54,	72
2	21,	23,	27,	36
2	21,	23,	27,	18
3	21,	23,	27,	9
3	7,	23,	9,	3
3	7,	23,	3,	1
7	7,	23,	1,	1
23	1,	23,	1,	1
	1,	1,	1,	1

Thus, the LCM
$= 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 7 \times 23 = 69,552$

(k) 15,20,30,60

2	15,	20,	30,	60
2	15,	10,	15,	30
3	15,	5,	15,	15
5	5,	5,	5,	5
	1,	1,	1,	1

Thus, the LCM
$= 2 \times 2 \times 3 \times 5 = 60$

(l) 21,28,35,49

2	21,	28,	35,	49
2	21,	14,	35,	49
3	21,	7,	35,	49
5	7,	7,	35,	49
7	7,	7,	7,	49
7	1,	1,	1,	7
	1,	1,	1,	1

Thus, the LCM
$= 2 \times 2 \times 3 \times 5 \times 7 \times 7 = 2940$

(m) 6,12,24,36

2	6,	12,	24,	36
2	3,	6,	12,	18
2	3,	3,	6,	9
3	3,	3,	3,	9
3	1,	1,	1,	3
	1,	1,	1,	1

Thus, the LCM
$= 2 \times 2 \times 2 \times 3 \times 3 = 72$

(n) 68,102,117,78

2	68,	102,	117,	78
2	34,	51,	117,	39
3	17,	51,	117,	39
3	17,	17,	39,	13
13	17,	17,	13,	13
17	17,	17,	1,	1
	1,	1,	1,	1

Thus, the LCM
$= 2 \times 2 \times 3 \times 3 \times 13 \times 17 = 7956$

(o) 66,128,132,220

2	66,	128,	132,	220
2	33,	64,	66,	110
2	33,	32,	33,	55
2	33,	16,	33,	55
2	33,	8,	33,	55
2	33,	4,	33,	55
2	33,	2,	33,	55
3	33,	1,	33,	55
5	11,	1,	11,	55
11	11,	1,	11,	1
	1,	1,	1,	1

Thus, the LCM = $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 5 \times 11 = 21,120$

Exercise 4.5

1. Here, we have to find HCF of 20 and 30.
Factors of 20 = $\underline{2} \times 2 \times \underline{5}$
Factors of 30 = $\underline{2} \times 3 \times \underline{5}$
Common factors of 20 and 30 = 2×5

Working

2	20
2	10
5	5
	1

2	30
3	15
5	5
	1

Thus, the HCF of 20 and 30 is $(2 \times 5 =)$ 10.
So, the greatest number which exactly divides 20 and 30 is 10.

2. Here, we have to find HCF of 25, 40 and 60.

Factors of 25 = 5 × 5

Factors of 40 = 2 × 2 × 2 × 5

Factors of 60 = 2 × 2 × 3 × 5

Common factors of 25,40 and 60 is only 5.

Working

5	25
5	5
	1

2	40
2	20
2	10
5	5
	1

2	60
2	30
3	15
5	5
	1

Thus, the HCF of 25, 40 and 60 is 5.

So, the greatest number which exactly divides 25,40 and 60 is 5.

3. Here, we have to find LCM of 15,16,18,21 and 42.

2	15,	16,	18,	21,	42
2	15,	8,	9,	21,	21
2	15,	4,	9,	21,	21
2	15,	2,	9,	21,	21
3	15,	1,	9,	21,	12
3	5,	1,	3,	7,	7
5	5,	1,	1,	7,	7
7	1,	1,	1,	7,	7
	1,	1,	1,	1,	1

Thus, the LCM = 2 × 2 × 2 × 2 × 3 × 3 × 5 × 7 = 5,040

So, the least number which exactly divides by 15,16,18,21 and 42 is 5,040.

4. Here, we have to find LCM of 315,819 and 252.

2	315,	819,	252
2	315,	819,	126
3	315,	819,	63
3	105,	273,	21
5	35,	91,	7
7	7,	91,	7
13	1,	13,	1
	1,	1,	1

Thus, the LCM = 2 × 2 × 3 × 3 × 5 × 7 × 13 = 16,380

So, the minimum length of the rope which can be divide into the pieces of 315 cm, 819 cm and 252 cm completely is 16,380cm.

5. Here, we have to find LCM of 52, 62 and 72 and then, we will add to it 2, to find the required number.

2	52,	62,	72
2	26,	31,	36
2	13,	31,	18
3	13,	31,	9
3	13,	31,	3
13	13,	31,	1
31	1,	31,	1
	1,	1,	1

Thus, the LCM = 2 × 2 × 2 × 3 × 3 × 13 × 31 = 29,016 and, the required number = 29,016+2 = 29,018

So, the smallest number is 29,018 which, when divided by 52,62 and 72, leaves 2 as remainder.

6. Here, we have to find LCM of 200,300 and 400.

2	200,	300,	400
2	100,	150,	200
2	50,	75,	100
2	25,	75,	50
3	25,	75,	25
5	25,	25,	25
5	5,	5,	5
	1,	1,	1

Thus, the LCM = 2 × 2 × 2 × 2 × 3 × 5 × 5 = 1200

So, the least amount of money with which an exact number of toys of each kind can be bought is `1,200.

7. Here, we have to find LCM of 45, 54, 72 and 81.

2	45,	54,	72,	81
2	45,	27,	36,	81
2	45,	27,	18,	81
3	45,	27,	9,	81
3	15,	9,	3,	27
3	5,	3,	1,	9
3	5,	1,	1,	3
5	5,	1,	1,	1
	1,	1,	1,	1

Thus, the LCM = 2×2×2×3×3×3×3×5 = 3,240

So, the least quantity of water which can be drawn out using these buckets exact number of times is 3,240 liters.

8. Here, we have to find LCM 160,180 and 240.

2	160,	180,	240
2	80,	90,	120
2	40,	45,	60
2	20,	45,	30
2	10,	45,	15
3	5,	45,	15
3	5,	15,	5
5	5,	5,	5
	1,	1,	1

Thus, the LCM = 2×2×2×2×2×3×3×5 = 1440

So, the shortest length that can be measured exactly using any one of the three rods is 1440 cm.

9. Here, we have to find LCM 10, 15 and 20.

2	10,	15,	20
2	5,	15,	10
3	5,	15,	5
5	5,	5,	5
	1,	1,	1

Thus, the LCM = 2 × 2 × 3 × 5 = 60

So, after 60 seconds the three bells toll together.

10. Here, we have to find LCM of 30 and 40.

2	30,	40
2	15,	20
2	15,	10
3	15,	5
5	5,	5
	1,	1

Thus, the LCM = 2×2×2×3×5 = 120

So, the greatest 4-digit number that is exactly divisible by 30 as well as 40 is 1200.

Exercise 4.6

Solve the following problems:

1. Here, Product of two numbers (A × B) = 160, LCM = 40, HCF = ?
   We have, HCF × LCM = A × B, So

$$\text{HCF} = \frac{A \times B}{\text{LCM}}$$

$$\text{HCF} = \frac{160}{40} = 40$$

   Thus, the HCF of two numbers is 40.

2. Here , LCM = 242, HCF = 11, one number(A) = 22, other number(B) = ?
   We have, HCF × LCM = A × B, So

$$B = \frac{\text{HCF} \times \text{LCM}}{A}$$

$$B = \frac{242 \times 11}{22} = 11 \times 11 = 121$$

   Thus, the other number is 121.

3. Here, Product of two numbers (A×B) = 2,688, HCF = 8, LCM = ?
   We have, HCF × LCM = A × B, So

$$\text{LCM} = \frac{A \times B}{\text{HCF}} = \frac{2688}{8} = 336$$

   So, the LCM of the two numbers is 336.

4. Here, HCF = 82, LCM = 2,44,188, one number(A) =1,428, other number(B) =?
   We have, HCF × LCM = A × B, So

$$\text{Other number (B)} = \frac{\text{HCF} \times \text{LCM}}{A} = \frac{82 \times 2,44,188}{1,428} = 82 \times 171 = 14,022$$

   So, the other number is 14,022.

5. Here, one number (A) = 75, other number (B) = 150, HCF = 75, LCM = ?
   We have, HCF × LCM = A × B, So

$$\text{LCM} = \frac{A \times B}{\text{HCF}} = \frac{75 \times 150}{75} = 150$$

   Thus, the LCM of the numbers is 150.

6. Here, Product of two numbers(A×B) = 45,000, HCF = 25, LCM=?
   We have, HCF × LCM = A × B, So

$$\text{LCM} = \frac{A \times B}{\text{HCF}} = \frac{45,000}{25} = 1,800$$

   So, the LCM of the two numbers is 1800.

7. Here , LCM = 8,125, HCF = 25, one number(A) = 325, other number(B) = ?
   We have,HCF × LCM = A × B, So

$$B = \frac{\text{HCF} \times \text{LCM}}{A} = \frac{25 \times 8,125}{325} = 25 \times 25 = 625$$

   So, the other number is 625.

Revision

1. Write all the factors of:

(a) Factors of 60
$1 \times 60 = 60, 2 \times 30 = 60, 3 \times 20 = 60, 4 \times 15 = 60,$
$5 \times 12 = 60, 6 \times 10 = 60$
1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30 and 60.

(b) Factors of 92
$1 \times 92 = 92, 2 \times 46 = 92, 4 \times 23 = 92,$
1, 2, 4, 23, 46 and 92.

(c) Factors of 120
$1 \times 120 = 120, 2 \times 60 = 120, 3 \times 40 = 120, 4 \times 30 = 120,$
$5 \times 24 = 120, \quad 6 \times 20 = 120, 8 \times 15 = 120, 10 \times 12 = 120$
1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 24, 30, 40, 60 and 120.

2. Write the first 7 multiples of:

(a) The first 7 multiples of 8
$8 \times 1 = 8, 8 \times 2 = 16, 8 \times 3 = 24, 8 \times 4 = 32, 8 \times 5 = 40,$
$8 \times 6 = 48, 8 \times 7 = 56$
8,16,24,32,40,48,56

(b) The first 7 multiple of 15
$15 \times 1 = 15, 15 \times 2 = 30, 15 \times 3 = 45, 15 \times 4 = 60,$
$15 \times 5 = 75, 15 \times 6 = 90, 15 \times 7 = 105$
15, 30, 45,60,75,90,105

(c) The first 7 multiple of 19
$19 \times 1 = 19, 19 \times 2 = 38, 19 \times 3 = 57, 19 \times 4 = 76,$
$19 \times 5 = 95, 19 \times 6 = 114, 19 \times 7 = 133$
19, 38,57,76,95,114,133

3. Using divisibility test, find which of the following numbers are divisible by:

(a) 936
   (i) The number has 6 at its ones place, so it is divisible by 2
   (ii) The total of its digits of the number (9 + 3 + 6 = 18) is divisible by 3. So, the number is divisible by 3.
   (iii) The number has not 0 or 5 at its ones place, so it is not divisible by 5.
   (iv) The total of its digits of the number (9 + 3 + 6 = 18) is divisible by 9. So, the number is divisible by 9.
   (v) The number has not 0 at its ones place, so it is not divisible by 10

(b) 3414
   (i) The number has 4 at its ones place, so it is divisible by 2
   (ii) The total of its digits of the number (3 + 4 + 1 + 4 = 12) is divisible by 3. So, the number is divisible by 3.

(iii) The number has not 0 or 5 at its ones place, so it is not divisible by 5.

(iv) The total of its digits of the number (3 + 4 + 1 + 4 = 12) is not divisible by 9. So, the number is not divisible by 9.

(v) The number has not 0 at its ones place, so it is not divisible by 10

(c) 839120

(i) The number has 0 at its ones place, so it is divisible by 2

(ii) The total of its digits of the number (8 + 3 + 9 + 1 + 2 + 0 = 23) is not divisible by 3. So, the number is not divisible by 3.

(iii) The number has 0 at its ones place, so it is divisible by 5.

(iv) The total of its digits of the number (8 + 3 + 9 + 1 + 2 + 0 = 23) is not divisible by 9. So, the number is not divisible by 9.

(v) The number has 0 at its ones place, so it is divisible by 10

(d) 806389

(i) The number has not 0, 2, 4, 6 or 8 at its ones place, so it is not divisible by 2

(ii) The total of its digits of the number (8 + 0 + 6 + 3 + 8 + 9 = 34) is not divisible by 3. So, the number is not divisible by 3.

(iii) The number has not 0 or 5 at its ones place, so it is not divisible by 5.

(iv) The total of its digits of the number (8 + 0 + 6 + 3 + 8 + 9 = 34) is not divisible by 9. So, the number is not divisible by 9.

(v) The number has not 0 at its ones place, so it is not divisible by 10.

4. Answer the following:

(a) The three prime numbers between 1 and 60 (19, 29 and 59) Have their unit digit as 9.

(b) 9 is the smallest odd composite number.

(c) 7 + 13; 13 + 17

(d) True.

5. Find the HCF of the following by prime factorisation method:

(a) 18, 12

The prime factors of 18 = $\underline{2} \times 3 \times \underline{3}$

The prime factors of 12 = $\underline{2} \times 2 \times \underline{3}$

Common prime factors of 18 and 12 = 2×3

Working :

2	18
3	9
3	3
	1

2	12
2	6
3	3
	1

Thus, the HCF of 18 and 12 is (2×3=) 6.

(b) 16,26

The prime factors of 16 = $\underline{2} \times 2 \times 2 \times 2$

The prime factors of 26 = $\underline{2} \times 13$

Common prime factors of 16 and 26 is only 2

Working

2	16
2	8
2	4
2	2
	1

2	26
13	13
	1

Thus, the HCF of 16 and 26 is 2.

(c) 6,9,15

The prime factors of 6 = 2×3

The prime factors of 9 = 3×3

The prime factors of 15 = 3×5

Common prime factors of 6,9 and 15 is only 3

Working :

2	6
3	3
	1

3	9
3	3
	1

3	15
5	1

Thus, the HCF of 6,9 and 15 is 3.

(d) 30, 15, 65

The prime factors of 30 = $2 \times 3 \times 5$

The prime factors of 15 = 3×5

The prime factors of 65 = 5×13

Common prime factors of 30, 15 and 65 is only 5

Working :

2	30
3	15
5	5
	1

3	15
5	5
	1

5	65
13	13
	1

Thus, the HCF of 30,15 and 65 is 5.

6. Find the HCF of the following by long division method:

(a) 56, 70 : Here, 56 is the first divisor

$56\overline{)70}(1$
-56
$14\overline{)56}(4$
-56
0

Here the last divisor is 14

Thus, the HCF of 56 and 70 is 14.

(b) 65, 91: Here, 65 is the first divisor

$65\overline{)91}(1$
-65
$26\overline{)65}(2$
-52
$13\overline{)26}(2$
-26
0

Here the last divisor is 13

Thus, the HCF of 65 and 91 is 13.

(c) 92, 68, 52: Here, 52 is the first divisor

$52\overline{)92}(1$
-52
$40\overline{)52}(1$
-40
$12\overline{)40}(.$
-36
$4\overline{)12}(3$
-12
0

$4\overline{)68}(17$
-4
28
-28
0

Here the last divisor is 4

Thus, the HCF of 92,68 and 52 is 4.

(d) 18,63,108: Here, 18 is the first divisor

$18\overline{)108}(6$ $\quad$ $18\overline{)63}(3$

-108 $\quad$ -54

0 $\quad$ $9\overline{)18}(2$

-18 Here the last divisor is 9

0

Thus, the HCF of 18,63 and 108 is 9.

7. Find the HCF of the following by factor method:

(a) 12, 18

Factors of 12 → $1 \times 12 = 12, 2 \times 6 = 12, 3 \times 4 = 12$

1, 2, 3, 4, 6, 12

Factors of 18 → $1 \times 18 = 18, 2 \times 9 = 18, 3 \times 6 = 18$

1, 2, 3, 6, 9, 18

Common factors of 12 and 18 = 1, 2, 3 and 6.

Thus, the HCF of 12 and 18 = 6

(b) 90, 108

Factors of 90 → $1 \times 90 = 90, 2 \times 45 = 90, 3 \times 30 = 90,$
$5 \times 18 = 90, 6 \times 15 = 90, 9 \times 10 = 90$

1, 2, 3, 5, 6, 9, 10, 15, 18, 30, 45, 90

Factors of 108 → $1 \times 108 = 108, 2 \times 54 = 108,$
$3 \times 36 = 108, 4 \times 27 = 108,$
$6 \times 18 = 108, 9 \times 12 = 108$

1, 2, 3, 4, 6, 9, 12, 18, 27, 36, 54, 108

Common factors of 90 and 108 = 1, 2,3,6,9 and 18

Thus the HCF of 108 and 90 = 18

(c) 16, 72, 80

Factors of 16 → $1 \times 16 = 16, 2 \times 8 = 16, 4 \times 4 = 16$

1, 2, 4, 8,16

Factors of 72 → $1 \times 72 = 172, 2 \times 36 = 72, 3 \times 24 = 72,$
$4 \times 18 = 72, \quad 6 \times 12 = 72, 8 \times 9 = 72$

1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72

Factors of 80 → $1 \times 80 = 80, 2 \times 40 = 80, 4 \times 20 = 80,$
$5 \times 16 = 80, 8 \times 10 = 80$

1, 2, 4, 5, 8, 10, 16, 20, 40, 80

Common factors of 16, 72 and 80 = 1,2,4 and 8

Thus the HCF of 16,72 and 80 =8

(d) 24, 96, 48

Factors of 24 → $1 \times 24 = 24, 2 \times 12 = 24, 3 \times 8 = 24,$
$4 \times 6 = 24$

1, 2, 3, 4, 6, 8, 12, 24

Factors of 96 → $1 \times 96 = 96, 2 \times 48 = 96, 3 \times 32 = 96,$
$4 \times 24 = 96, 6 \times 16 = 96, 8 \times 12 = 96$

1, 2, 3, 4, 6, 8, 12, 16, 24, 32, 48, 96

Factors of 48→ $1 \times 48 = 48, 2 \times 24 = 48, 3 \times 16 = 48,$
$4 \times 12 = 48, 6 \times 8 = 48$

1, 2, 3, 4, 6, 8, 12, 16, 24, 48

Common factors of 24,96 and 48 = 1, 2, 3, 4, 6, 8, 12 and 24

Thus the HCF of 24, 96 and 48 = 24

8. Find the LCM of the following by multiple method:

(a) 6, 11

Multiples of 6 = 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96, 102, 108, 114, 120, 126, 132, 138

Multiples of 11= 11, 22, 33, 44, 55, 66, 77, 88, 99, 110, 121, 132,…..

Common multiples of 6 and 11= 66,132,…..

The least common multiple is 66

Thus, the LCM of 6 and 11 is 66.

(b) 15,20

Multiples of 15= 15, 30, 45, 60, 75, 90, 105, 120, 135

Multiples of 20= 20, 40, 60, 80, 100, 120

Common multiples of 15 and 20 = 60,120,…..

The least common multiple is 60

Thus, the LCM of 15 and 20 is 60.

(c) 9, 3, 7

Multiples of 9= 9, 18, 27, 36, 45, 54, 63, 72, 81, 90, 99, 108, 117, 126, 135

Multiples of 3= 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 488, 51, 54, 57, 60, 63, 66, 69, 72, 75, 78, 81, 84, 87, 90, 93, 96, 99, 102, 105, 108, 111, 114, 117, 120, 123, 126

Multiples of 7= 7, 14, 21, 28, 35, 42, 49, 56, 63, 70, 77, 84, 91, 98, 105, 112, 119, 126

Common multiples of 9, 3 and 7 = 63, 126,…..

The least common multiple is 63

Thus, the LCM of 9, 3 and 7 is 63.

(d) 8,10,12

Multiples of 8= 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, 88, 96, 104, 112, 120, 128, 136, 144, 152, 160, 168, 176, 184, 192, 200, 208, 216, 224, 232, 240, 248,…..

Multiples of 10 = 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240…

Multiples of 12 = 12, 24, 36, 48, 60, 72, 84, 96, 108, 120, 132, 144, 156, 168, 180, 192, 204, 216, 228, 240,..

Common multiples of 8,10 and 12 = 120,240,..

The least common multiple is 120.

Thus, the LCM of 8,10 and 12 is 120.

9. Find the LCM of the following by prime factorisation method:

(a) 12,18

Prime factors of 12 = 2 × 2 × 3

Prime factors of 18 = 2 × 3 × 3

Working :

2 | 12
2 | 6
3 | 3
| 1

2 | 18
3 | 9
3 | 3
| 1

Thus, the LCM of 12 and 18= 2 × 2 × 3 × 3 = 36

(b) 14, 21

Prime factors of 14 = 2 × 7

Prime factors of 21 = 3 × 7

Working :

2 | 14
7 | 7
| 1

3 | 21
7 | 7
| 1

Thus, the LCM of 14 and 21= 2 × 3 × 7 = 42

(c) 11, 22, 44

Prime factors of 11 = 11

Prime factors of 22 = 2 × 11

Prime factors of 44 = 2 × 2 × 11

Working :

11	11
	1

2	22
11	11
	1

2	44
2	22
11	11
	1

Thus, the LCM of 11, 22 and 44= 2 × 2 × 11 = 44

(d) 8, 12, 24

Prime factors of 8 = 2 × 2 × 2

Prime factors of 12 = 2 × 2 × 3

Prime factors of 24 = 2 × 2 × 2 × 3

Working :

2	8
2	4
2	2
	1

2	12
2	6
3	3
	1

2	24
2	12
2	6
3	3
	1

Thus, the LCM of 8, 12 and 24 = 2 × 2 × 2 × 3 = 24

10. Find the LCM of the following by long division method:

(a) 18, 24

2	18,	24
2	9,	12
2	9,	6
3	9,	3
3	3,	1
	1,	1

Thus, the LCM = 2 × 2 × 2 × 3 × 3 = 72

(b) 16, 22

2	16,	22
2	8,	11
2	4,	11
2	2,	11
11	1,	11
	1,	1

Thus, the LCM = 2 × 2 × 2 × 2 × 11 = 176

(c) 36,42,48

2	36,	42,	48
2	18,	21,	24
2	9,	21,	12
2	9,	21,	6
3	9,	21,	3
3	3,	7,	1
7	1,	7,	1
	1,	1,	1

Thus, the LCM = 2 × 2 × 2 × 2 × 3 × 3 × 7 = 1008

(d) 27, 36, 45

2	27,	36,	45
2	27,	18,	45
3	27,	9,	45
3	9,	3,	15
3	3,	1,	5
5	1,	1,	5
	1,	1,	1

Thus, the LCM = 2 × 2 × 3 × 3 × 3 × 5 = 450

11. Here, HCF= 144, LCM= 2880, one number(A)= 576, other number(B)= ?

We have, HCF × LCM = A × B, so

$$B = \frac{HCF \times LCM}{A}$$

$$= \frac{144 \times 2880}{576} = 144 \times 5 = 720$$

Exercise 5.1

1. Round the numbers to nearest tens:

To round the number to nearest tens, we see the digit at its ones place.

(a) 8<u>7</u> : Here, 7 is more than 5, so 87 is rounded up to the nearest tens as 90.

(b) 32<u>4</u> : Here, 4 is less than 5, so 324 is rounded down to the nearest tens as 320.

(c) 690<u>5</u> : Here, the ones digit is equal to 5, so 6905 is rounded up to the nearest tens as 6910.

(d) 9340<u>2</u> : Here, 2 is less than 5, so 93402 is rounded down to the nearest tens as 93400.

2. Round the numbers to nearest hundreds

To round the number to nearest hundreds, we see the digit at its tens place.

(a) <u>9</u>6 : Since 9 > 5, so 96 is rounded up to the nearest hundreds as 100.

(b) 4<u>0</u>9 : Since 0 < 5, so 409 is rounded down to the nearest hundreds as 400.

(c) 80<u>6</u>5 : Since 6>5, so 8065 is rounded up to the nearest hundreds as 8100.

(d) 714<u>0</u>5 : Since 0 < 5, so 71405 is rounded down to the nearest hundreds as 71400.

3. Round the numbers to nearest thousands :

To round the number to nearest thousands, we see the digit at its hundreds place.

(a) 1<u>2</u>79 : Since 2 < 5. So 1279 is rounded down to the nearest thousand as 1000.

(b) 86<u>4</u>09 : Since 4 < 5, so 86409 is rounded down to the nearest thousand as 8600.

(c) 50<u>5</u>05 : Since 5 = 5, so 36984 is rounded up to the nearest thousand as 51000.

(d) 36<u>9</u>84 : Since 9 > 5, so 36984 is rounded up to the nearest thousand as 37000.

4. Round the numbers to nearest ten thousands :

To round the number to nearest ten thousands, we see the digit at its thousands place.

(a) 4<u>0</u>640 : Since 0 < 5, so 40640 is rounded down to the nearest ten thousands as 40000.

(b) 78<u>9</u>408 : Since 9 > 5, so 789408 is rounded up to the nearest ten thousands as 790000.

(c) 910<u>5</u>632 : Since 5 = 5, so 9105632 is rounded up to the nearest ten thousands as 9110000.

(d) 1<u>2</u>794 : Since 2 < 5, so 12794 is rounded down to the nearest ten thousands as 10000.

5. Circle the numbers that can be rounded to 500:

449, 472, 450, 532, 598, 481

6. **Rewrite the statement as per the conditions in the brackets:**

(a) The number of month is 9, which is more than half year (that is, 6). So, 15 year 9 month 10 days is rounded up to 16 years. Thus, the statement will be: "Pooja has 16 years of work experience".

(b) The number of minutes is 40, which is more than half an hour (that is,30). So 2 hours 40 minutes is rounded up to 3 hours. Thus, the statement will be: "Paras sees movie for 3 hours."

Exercise 5.2

1. **Estimate the sum or the difference by rounding the number to the nearest tens:**

(a) 389 + 502

Estimated sum = 390 + 500 = 890

(b) 1187 – 609

Estimated difference = 1190 – 610 =580

(c) 2468 + 1013

Estimated sum = 2470+1010 =3480

(d) 4419 – 3684

Estimated difference = 4420 – 3680 = 740

(e) 8879 + 544

Estimated sum = 8880 + 540 = 9420

(f) 746 – 282

Estimated difference = 750 – 280 = 470

2. **Estimated the sum or the difference by rounding the numbers to the nearest hundreds:**

(a) 736 – 494

Estimated difference = 700 – 500 =200

(b) 2879 + 96

Estimated sum = 2900 + 100 = 3000

(c) 5269 – 524

Estimated difference = 5300 – 500 = 4800

(d) 9786 + 145

Estimated sum = 9800 + 100 = 9900

(e) 3272 + 1069

Estimated sum = 3300 + 1100 =4400

(f) 9866 – 6666

Estimated difference = 9900 – 6700 = 3200

3. **Estimated the sum or the difference by rounding the numbers to the nearest thousand:**

(a) 6544 + 3821

Estimated sum = 7000 + 4000 = 11000

(b) 12970 + 7463

Estimated sum = 13000 + 7000 = 20000

(c) 35847 – 3584

Estimated difference = 36000 – 4000 = 32000

(d) 20658 – 14203

Estimated difference = 21000 – 14000 = 7000

(e) 1013 + 5497

Estimated sum = 1000 + 5000 = 6000

(f) 9520 – 7342

Estimated difference = 10000 – 7000 = 3000

Exercise 5.3

1. **Estimate the product by rounding the numbers to the nearest tens:**

(a) 65 × 25

Estimated product = 70 × 30 = 2100

(b) 189 × 32

Estimated product = 190 × 30 = 5700

(c) 504 × 19

Estimated product = 500 × 20 = 10000

(d) 88 × 36

Estimated product = 90 × 40 = 3600

(e) 206 × 8

Estimated product = 210 × 10 = 2100

(f) 362 × 52

Estimated product = 360 × 50 = 1800

2. **Estimate the product by rounding the numbers to the nearest hundreds:**

(a) 469 × 320

Estimate product = 500 × 300 = 1,50,000

(b) 245 × 98

Estimate product = 200 × 100 = 2,00,000

(c) 386 × 128

Estimate product = 400 × 100 = 4,00,000

(d) 147 × 663

Estimate product = 100 × 700 = 7,00,000

(e) 292 × 540

Estimate product = 300 × 500 = 1,50,000

(f) 810 × 230

Estimate product = 800×200 = 1,60,000

3. **Estimate the quotient by rounding the numbers to the nearest tens:**

(a) 72 ÷ 7

Estimated quotient = 70 ÷ 10 = 7

(b) 479 ÷ 78

Estimated quotient = 480 ÷ 80 = 6

(c) 496 ÷ 52

Estimated quotient = 500 ÷ 50 = 10

(d) 836 ÷ 38

Estimated quotient = 840 ÷ 40 = 21

(e) 523 ÷ 19

Estimate quotient = 520 ÷ 20 = 26

(f) 64 ÷ 9

Estimated quotient = 60 ÷ 10 = 6

Exercise 6.1

1. Shade the fractional part asked and write the fraction in the boxes :

(a) $\frac{2}{6}$ (b) $\frac{5}{8}$ (c) $\frac{3}{9}$

2. Write the numerator and denominator of the following fractions :

(a) In $\frac{3}{7}$, Numerator = 3, Denominator = 7

(b) In $\frac{2}{6}$, Numerator = 2, Denominator = 6

(c) In $\frac{5}{13}$, Numerator = 5, Denominator = 13

(d) In $\frac{4}{7}$, Numerator = 4, Denominator = 7

(e) In $\frac{11}{15}$, Numerator = 11, Denominator = 15

(f) In $\frac{8}{25}$, Numerator = 8, Denominator = 25

3. Write the following fractions in words :

(a) $\frac{3}{5}$ = Three upon five or three-fifths

(b) $\frac{1}{5}$ = One upon five or one-fifths

(c) $\frac{2}{7}$ = Two upon seven or two-sevenths

(d) $\frac{11}{15}$ = Eleven upon fifteen or eleven-fifteenths

(e) $\frac{6}{10}$ = Six upon ten or six-tenths

(f) $\frac{4}{8}$ = Four upon eight or four-eights

4. Identify the following fractions and name them as improper/ proper unit/ mixed, etc:

(a) $\frac{1}{3}$ = Proper or unit fraction

(b) $\frac{2}{7}$ = Proper fraction

(c) $\frac{3}{11}$ = Proper fraction

(d) $\frac{8}{14}$ = Proper fraction

(e) $\frac{10}{8}$ = Improper fraction

(f) $3\frac{1}{5}$ = Mixed fraction

(g) $3\frac{1}{8}$ = Mixed fraction

(h) $\frac{14}{10}$ = Improper fraction

(i) $\frac{3}{5}$ = Proper fraction

(j) $\frac{22}{21}$ = Improper fraction

(k) $\frac{1}{50}$ = Proper or unit fraction

(l) $2\frac{1}{6}$ = Mixed fraction

(m) $\frac{11}{33}$ = Proper fraction

(n) $2\frac{1}{50}$ = Mixed fraction

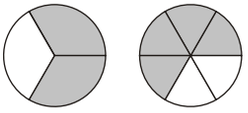
(o) $4\frac{3}{5}$ = Mixed fraction

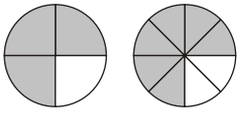
(p) $6\frac{1}{4}$ = Mixed fraction

(q) $\frac{11}{20}$ = Proper fraction

(r) $6\frac{2}{15}$ = Mixed fraction

5. Shade the equivalent fractions :

(a) 

(b) 

6. Write the next three equivalent fractions:

(a) $\frac{4}{8}, \frac{5}{10}, \frac{6}{12}$ (b) $\frac{4}{12}, \frac{5}{15}, \frac{6}{18}$ (c) $\frac{8}{20}, \frac{10}{25}, \frac{12}{30}$

(d) $\frac{8}{28}, \frac{10}{35}, \frac{12}{42}$ (e) $\frac{12}{28}, \frac{15}{35}, \frac{18}{42}$ (f) $\frac{8}{44}, \frac{10}{55}, \frac{12}{66}$

7. Replace the box in each of the following by the correct number:

(a) $\frac{4}{7} = \frac{16}{\square}$

Since $4 \times 4 = 16$, so we multiply 4 by 4 and also, 7 by 4.

$$\frac{4}{7} = \frac{4 \times 4}{7 \times 4} = \frac{16}{28}$$

Thus, $\frac{4}{7} = \frac{16}{28}$

(b) $\frac{2}{3} = \frac{\square}{9}$

Since $3 \times 3 = 9$, so we multiply 3 by 3 and also, 2 by 3.

$$\frac{2}{3} = \frac{2 \times 3}{3 \times 3} = \frac{6}{9}$$

Thus, $\frac{2}{3} = \frac{6}{9}$

(c) $\frac{4}{6} = \frac{\square}{36}$

Since $6 \times 6 = 36$, so we multiply 6 by 6 and also, 4 by 6.

Thus, $\frac{4}{6} = \frac{4 \times 6}{6 \times 6} = \frac{24}{36}$ $\frac{4}{6} = \frac{24}{36}$

(d) $\frac{4}{7} = \frac{\square}{14}$

Since $7 \times 2 = 14$, so we multiply 7 by 2 and also, 4 by 2.

$\frac{4}{7} = \frac{4 \times 2}{7 \times 2} = \frac{8}{14}$

Thus, $\frac{4}{7} = \frac{8}{14}$

(e) $\frac{15}{20} = \frac{\square}{40}$

Since $20 \times 2 = 40$, so we multiply 20 by 2 and also, 15 by 2.

$\frac{15}{20} = \frac{15 \times 2}{20 \times 2} = \frac{30}{40}$

Thus, $\frac{15}{20} = \frac{30}{40}$

(f) $\frac{21}{35} = \frac{3}{\square}$

Since, $21 \div 7 = 3$, so we divide 21 by 7 and also, 35 by 7.

$\frac{21}{35} = \frac{21 \div 7}{35 \div 7} = \frac{3}{5}$

Thus, $\frac{21}{35} = \frac{3}{5}$

8. Verify whether the following pairs of fractions are equivalent or not:

(a) Given fractions are $\frac{8}{15}$ and $\frac{40}{75}$.

We have,

$8 \times 75 = 600$ and $15 \times 40 = 600$

Thus, $8 \times 75 = 15 \times 40$

Hence, given fractions are equivalent.

(b) Given fractions are $\frac{1}{2}$ and $\frac{5}{10}$.

We have,

$1 \times 10 = 10$ and $2 \times 5 = 10$

Thus, $1 \times 10 = 2 \times 5$

Hence, given fractions are equivalent.

(c) Given fractions are $\frac{6}{7}$ and $\frac{12}{14}$.

We have,

$6 \times 14 = 84$ and $7 \times 12 = 84$

Thus, $6 \times 14 = 7 \times 12$

Hence, given fractions are equivalent

(d) Given fractions are $\frac{12}{44}$ and $\frac{21}{76}$.

We have,

$12 \times 76 = 912$ and $44 \times 21 = 924$

Thus, 12×76 is not equal to 44×21

Hence, given fractions are not equivalent

(e) Given fractions are $\frac{1}{8}$ and $\frac{7}{54}$.

We have,

$1 \times 54 = 54$ and $8 \times 7 = 56$

Thus, 1×54 is not equal to 8×7

Hence, given fractions are not equivalent

(f) Given fractions are $\frac{3}{10}$ and $\frac{6}{20}$.

We have,

$3 \times 20 = 60$ and $10 \times 6 = 60$

Thus, $3 \times 20 = 10 \times 6$

Hence, given fractions are equivalent

Exercise 6.2

1. (a) $2\frac{1}{2} = \frac{(2 \times 2) + 1}{2} = \frac{5}{2}$

(b) $6\frac{4}{10} = \frac{(10 \times 6) + 4}{10} = \frac{64}{10}$

(c) $5\frac{8}{16} = \frac{(16 \times 5) + 8}{16} = \frac{88}{16}$

(b) $7\frac{2}{7} = \frac{(7 \times 7) + 2}{7} = \frac{51}{7}$

(e) $3\frac{1}{3} = \frac{(3 \times 3) + 1}{3} = \frac{10}{3}$

(f) $7\frac{1}{2} = \frac{(7 \times 2) + 1}{2} = \frac{15}{2}$

(g) $4\frac{3}{6} = \frac{(6 \times 4) + 3}{6} = \frac{27}{6}$

(h) $2\frac{4}{10} = \frac{(10 \times 2) + 4}{10} = \frac{24}{10}$

(i) $6\frac{4}{12} = \frac{(12 \times 6) + 4}{12} = \frac{76}{12}$

(j) $9\frac{1}{3} = \frac{(9 \times 3) + 1}{3} = \frac{28}{3}$

(k) $8\frac{3}{6} = \frac{(6 \times 8) + 3}{6} = \frac{51}{6}$

(l) $7\frac{2}{4} = \frac{(4 \times 7) + 2}{4} = \frac{30}{4}$

(m) $3\frac{2}{3} = \frac{(3 \times 3) + 2}{3} = \frac{11}{5}$

(n) $5\frac{4}{7} = \frac{(7 \times 5) + 4}{7} = \frac{39}{7}$

(o) $4\frac{8}{9} = \frac{(9 \times 4) + 8}{9} = \frac{44}{9}$

(p) $1\frac{3}{11} = \frac{(11 \times 1) + 3}{11} = \frac{14}{11}$

2. (a) $\frac{11}{3}$

$3\overline{)11}$ (3, remainder 9, 2)

$= 3\frac{2}{3}$

(b) $\frac{8}{5}$

$5\overline{)8}$ (1, remainder 5, 3)

$= 1\frac{3}{5}$

(c) $\frac{19}{10}$ $10\overline{)19}$ $\frac{10}{9}$ $\frac{1}{}$

$= 1\frac{9}{10}$

(d) $\frac{13}{11}$ $11\overline{)13}$ $\frac{11}{2}$ $\frac{1}{}$

$= 1\frac{2}{11}$

(e) $\frac{11}{4}$ $4\overline{)11}$ $\frac{8}{3}$ $\frac{2}{}$

$= 2\frac{3}{4}$

(f) $\frac{16}{7}$ $7\overline{)16}$ $\frac{14}{2}$ $\frac{2}{}$

$= 2\frac{2}{7}$

(g) $\frac{12}{8}$ $8\overline{)12}$ $\frac{8}{4}$ $\frac{1}{}$

$= 1\frac{4}{8}$

(h) $\frac{40}{13}$ $13\overline{)40}$ $\frac{39}{1}$ $\frac{3}{}$

$= 3\frac{1}{13}$

(i) $\frac{18}{7}$ $7\overline{)18}$ $\frac{14}{4}$ $\frac{9}{}$

$= 2\frac{4}{7}$

(j) $\frac{21}{4}$ $4\overline{)21}$ $\frac{20}{1}$ $\frac{5}{}$

$= 5\frac{1}{4}$

(k) $\frac{37}{9}$ $9\overline{)37}$ $\frac{36}{1}$ $\frac{4}{}$

$= 4\frac{1}{9}$

(l) $\frac{10}{3}$ $3\overline{)10}$ $\frac{9}{1}$ $\frac{10}{}$

$= 3\frac{1}{3}$

(m) $\frac{6}{5}$ $5\overline{)6}$ $\frac{5}{1}$ $\frac{1}{}$

$= 1\frac{1}{5}$

(n) $\frac{12}{5}$ $5\overline{)12}$ $\frac{10}{2}$ $\frac{2}{}$

$= 2\frac{2}{5}$

(o) $\frac{37}{7}$ $7\overline{)37}$ $\frac{35}{2}$ $\frac{5}{}$

$= 5\frac{2}{7}$

(p) $\frac{40}{7}$ $7\overline{)40}$ $\frac{35}{5}$ $\frac{5}{}$

$= 5\frac{5}{7}$

Exercise 6.3

1. (a) <, (b) <, (c) >, (d) >, (e) <, (f) <,

(g) Given fractions are $\frac{5}{6}$ and $\frac{7}{9}$

Cross multiply $\frac{5}{6} \times \frac{7}{9}$

Now, $5 \times 9 = 45$ and $6 \times 7 = 42$

$45 > 42$

so $\boxed{\frac{5}{6} > \frac{7}{9}}$

(h) Given fractions are $\frac{7}{9}$ and $\frac{13}{18}$

Cross multiply : $\frac{7}{9} \times \frac{13}{18}$

Now, $7 \times 18 = 126$ and $9 \times 13 = 117$

$126 > 117$

so $\boxed{\frac{7}{9} > \frac{13}{18}}$

(i) Given fraction are $\frac{16}{19}$ and $\frac{12}{57}$

Cross multiply $\frac{16}{19} \times \frac{12}{57}$

Now, $16 \times 57 = 912$ and $19 \times 12 = 228$

$912 > 228$

so $\boxed{\frac{16}{19} > \frac{12}{57}}$

(j) Given fractions are $\frac{2}{5}$ and $\frac{4}{15}$

Cross multiply : $\frac{2}{5} \times \frac{4}{15}$

Now, $2 \times 15 = 30$ and $5 \times 4 = 20$

$30 > 20$

$\boxed{\frac{2}{5} > \frac{4}{15}}$

(k) Given fractions are $\frac{7}{16}$ and $\frac{5}{8}$

Cross multiply : $\frac{7}{16} \times \frac{5}{8}$

Now, $7 \times 8 = 56$ and $5 \times 16 = 80$

$56 < 80$

$\boxed{\frac{7}{16} < \frac{5}{8}}$

(l) Given fractions are $\frac{8}{15}$ and $\frac{6}{11}$

Cross multiply : $\frac{8}{15} \times \frac{6}{11}$

Now, $8 \times 11 = 88$ and $6 \times 15 = 90$

$88 < 90$

$\boxed{\frac{8}{15} < \frac{6}{11}}$

2. (a) $\frac{10}{50}$

HCF of 10 and 50 = 10

Divide numerators and denominators by 10.

So, $\frac{10}{50} = \frac{10 \div 10}{50 \div 50} = \frac{1}{5}$

Thus the simplest from of $\frac{10}{50}$ is $\frac{1}{5}$

(b) $\frac{16}{54}$ HCF of 16 and 54 = 2

Divide numerators and denominators by 2.

So, $\frac{16}{54} = \frac{16 \div 2}{54 \div 2} = \frac{8}{27}$

Thus the simplest from of $\frac{16}{54}$ is $\frac{8}{27}$

(c) $\frac{35}{49}$

HCF of 35 and 49 = 7

Divide numerators and denominators by 2.

So, $\frac{35}{49} = \frac{35 \div 7}{49 \div 7} = \frac{5}{7}$

Thus the simplest form of $\frac{35}{49}$ is $\boxed{\frac{5}{7}}$

(d) $\frac{56}{64}$

HCF of 56 and 64 = 8

Divide numerators and denominators by 2.

So, $\frac{56}{64} = \frac{56 \div 8}{64 \div 8} = \frac{7}{8}$

Thus the simplest form of $\frac{56}{64}$ is $\boxed{\frac{7}{8}}$

(e) $\frac{18}{81}$

HCF of 18 and 81 = 9

Divide numerators and denominators by 9.

So, $\frac{18}{81} = \frac{18 \div 9}{81 \div 9} = \frac{2}{9}$

Thus the simplest form of $\frac{18}{81}$ is $\boxed{\frac{2}{9}}$

(f) $\frac{27}{63}$

HCF of 27 and 63 = 9

Divide numerators and denominators by 9.

So, $\frac{27}{63} = \frac{27 \div 9}{63 \div 9} = \frac{3}{7}$

Thus the simplest form of $\frac{27}{63}$ is $\boxed{\frac{3}{7}}$

(g) $\frac{34}{68}$

HCF of 34 and 68 = 34

Divide numerators and denominators by 34.

So, $\frac{34}{68} = \frac{34 \div 34}{68 \div 34} = \frac{1}{2}$

Thus the simplest form of $\frac{34}{68}$ is $\boxed{\frac{1}{2}}$

(h) $\frac{105}{500}$

HCF of 105 and 500 = 5

Divide numerators and denominators by 5.

So, $\frac{105}{500} = \frac{105 \div 5}{500 \div 5} = \frac{21}{100}$

Thus the simplest form of $\frac{105}{500}$ is $\frac{21}{100}$

3. (a) $\frac{4}{9} \boxed{<} \frac{5}{9}$, (b) $\frac{3}{5} \boxed{>} \frac{2}{5}$, (c) $\frac{1}{4} \boxed{<} \frac{2}{4}$, (d) $\frac{3}{8} \boxed{<} \frac{4}{8}$,

4. (a) $\frac{2}{8}, \frac{3}{8}, \frac{6}{8}, \frac{7}{8}$ (b) $\frac{3}{12}, \frac{6}{12}, \frac{9}{12}, \frac{13}{12}$

(c) $\frac{9}{8}, \frac{9}{6}, \frac{9}{5}, \frac{9}{2}$ (d) $\frac{1}{14}, \frac{3}{14}, \frac{10}{14}, \frac{12}{14}$

5. (a) $\frac{7}{6}, \frac{4}{6}, \frac{2}{6}, \frac{1}{6}$ (b) $\frac{10}{2}, \frac{10}{3}, \frac{10}{5}, \frac{10}{7}$

(c) $\frac{9}{2}, \frac{9}{5}, \frac{9}{6}, \frac{9}{8}$ (d) $\frac{12}{14}, \frac{10}{14}, \frac{3}{14}, \frac{1}{14}$

Exercise 6.4

1. (a) $\frac{3}{7} + \frac{2}{7}$

$= \frac{3+2}{7} = \frac{5}{7}$

(b) $\frac{2}{15} + \frac{7}{15}$

$= \frac{2+7}{15} = \frac{9}{15} = \frac{3}{5}$

(c) $\frac{3}{13} + \frac{7}{13}$

$= \frac{3+7}{13} = \frac{10}{13}$

(d) $\frac{2}{6} + \frac{3}{6} + \frac{1}{6}$

$= \frac{2+3+1}{6} = \frac{6}{6} = 1$

(e) $\frac{7}{10} + \frac{9}{10}$

$= \frac{7+9}{10} = \frac{16}{10} = \frac{8}{5}$

(f) $\frac{13}{15} + \frac{8}{15}$

$= \frac{13+8}{15} = \frac{21}{15} = \frac{7}{5}$

(g) $\frac{7}{25} + \frac{9}{25} + \frac{4}{25}$

$= \frac{7+9+4}{25} = \frac{20}{25} = \frac{4}{5}$

(h) $\frac{19}{70} + \frac{11}{70} + \frac{5}{70}$

$= \frac{19+11+5}{70} = \frac{35}{70} = \frac{1}{2}$

(i) $\frac{26}{100} + \frac{17}{100} + \frac{7}{100}$

$= \frac{26+17+7}{100} = \frac{50}{100} = \frac{1}{2}$

2. (a) $\frac{7}{9} - \frac{4}{9}$

$= \frac{7-4}{9} = \frac{3}{9} = \frac{1}{3}$

(b) $\frac{15}{26} - \frac{2}{26}$

$= \frac{15-2}{26} = \frac{13}{26} = \frac{1}{2}$

(c) $\frac{40}{41} - \frac{19}{41}$

$= \frac{40-19}{41} = \frac{21}{41}$

(d) $\frac{19}{75} - \frac{6}{75}$

$= \frac{19-6}{75} = \frac{13}{75}$

(e) $6\frac{5}{18} - 4\frac{7}{18}$

$= \frac{(18 \times 6) + 5}{18} - \frac{(18 \times 4) + 7}{18} = \frac{113}{18} - \frac{79}{18} = \frac{17}{9}$

(f) $1\frac{4}{9} - \frac{5}{9}$

$= \frac{13}{9} - \frac{5}{9} = \frac{13 - 5}{9} = \frac{8}{9}$

(g) $\frac{7}{15} - \frac{2}{15}$

$= \frac{7 - 2}{15} = \frac{5}{15} = \frac{1}{3}$

(h) $1\frac{1}{5} - \frac{3}{5}$

$= \frac{6}{5} - \frac{3}{5} = \frac{6 - 3}{5} = \frac{3}{5}$

(i) $\frac{33}{21} - \frac{27}{21}$

$\frac{33}{21} - \frac{27}{21} = \frac{33 - 27}{21} = \frac{6}{21} = \frac{2}{7}$

3. (a) $\frac{3}{5} + \frac{3}{4}$

LCM of 5 and 4 = 20

$= \frac{3 \times 4 + 3 \times 5}{20} = \frac{12 + 15}{20} = \frac{27}{20} = 1\frac{7}{20}$

(b) $\frac{4}{9} + \frac{4}{18} + \frac{5}{36}$

LCM of 9, 18 and 36 = 36

$= \frac{4 \times 4 + 4 \times 2 + 5 \times 1}{36} = \frac{16 + 8 + 5}{36} = \frac{29}{36}$

(c) $\frac{19}{16} + \frac{5}{8} + \frac{5}{24}$

LCM of 16, 8 and 24 = 48

$= \frac{19 \times 3 + 5 \times 6 + 5 \times 2}{48} = \frac{57 + 30 + 10}{48} = \frac{97}{48} = 2\frac{1}{48}$

(d) $\frac{7}{1} + \frac{7}{5}$

LCM of 1 and 5 = 5

$= \frac{7 \times 5 + 7 \times 1}{5} = \frac{35 + 7}{5} = \frac{42}{5} = 8\frac{2}{5}$

(e) $9 + 8\frac{1}{3} + \frac{2}{3}$

LCM of 1,3 and 3 = 3

$= \frac{9}{1} + \frac{25}{3} + \frac{2}{3} = \frac{9 \times 3 + 25 \times 1 + 2 \times 1}{3}$

$= \frac{27 + 25 + 2}{3} = \frac{54}{3} = 18$

(f) $2\frac{3}{7} + \frac{9}{8} + 5$

LCM of 7, 8 and 1 = 56

$= \frac{17}{7} + \frac{9}{8} + \frac{5}{1} = \frac{17 \times 8 + 9 \times 7 + 5 \times 56}{56}$

$= \frac{136 + 63 + 280}{56} = \frac{479}{56}$

(g) $\frac{23}{40} - \frac{3}{8}$

LCM of 40 and 8 = 40

$= \frac{23 \times 1 - 3 \times 5}{40} = \frac{23 - 15}{40} = \frac{8}{40} = \frac{1}{5}$

(h) $2\frac{4}{15} - \frac{7}{5}$

LCM of 15 and 5 = 15

$= \frac{34}{15} - \frac{7}{5} = \frac{34 \times 1 - 7 \times 3}{15} = \frac{34 - 21}{15} = \frac{13}{15}$

(i) $3\frac{6}{7} - \frac{10}{21} - 1$

LCM of 7, 21 and 1 = 21

$= \frac{27}{7} - \frac{10}{21} - \frac{1}{1} = \frac{3 \times 27 - 10 \times 1 - 1 \times 21}{21}$

$= \frac{81 - 10 - 21}{21} = \frac{50}{21} = 2\frac{8}{21}$

4. (a) $2\frac{4}{9} - 2 + \frac{11}{18}$

LCM of 9, 1 and 18 = 18

$= \frac{22}{9} - \frac{2}{1} + \frac{11}{18} = \frac{22 \times 2 - 2 \times 18 + 11 \times 1}{18}$

$= \frac{44 - 36 + 11}{18} = \frac{19}{18} = 1\frac{1}{18}$

(b) $8\frac{5}{12} - 2\frac{5}{6} - 1\frac{7}{15}$

LCM of 12,6 and 15 is 60

$= \frac{101}{12} - \frac{17}{6} - \frac{22}{15} = \frac{101 \times 5 - 17 \times 10 - 22 \times 4}{60}$

$= \frac{505 - 170 - 88}{60} = \frac{247}{60} = 4\frac{7}{60}$

(c) $3\frac{5}{8} + 2\frac{4}{9} - 2\frac{5}{12} = \frac{29}{8} + \frac{22}{9} - \frac{29}{12}$

$= \frac{29 \times 9 + 22 \times 8 - 29 \times 6}{72} = \frac{261 + 176 - 174}{72}$

$= \frac{263}{72} = 3\frac{47}{72}$

5. (a) Petrol used in 2 days = $4\frac{2}{3}\ l + 5\frac{7}{8}\ l$

LCM of 3 and 8 is 24 = $\frac{14}{3} + \frac{47}{8}$

$= \frac{14 \times 8 + 47 \times 3}{24} = \frac{112 + 141}{24} = \frac{253}{24} = 10\frac{13}{24}$

$= 10\frac{13}{24}$

Thus, $10\frac{13}{24}$ litre of petrol was used in 2 days

(b) Total Petrol = 12 litre

Petrol used $= 10\frac{13}{24}$ litre

Petrol was left $= 12 - 10\frac{13}{24}$ litre

$= 12 - \frac{253}{24} = \frac{24 \times 12 - 253}{24} = \frac{35}{24}$

Thus $\frac{35}{24}$ litre of petrol was left.

6. Total material used

$= 2\frac{1}{4} + 1\frac{1}{2} + 2\frac{1}{2} = \frac{9}{4} + \frac{3}{2} + \frac{5}{2}$

$= \frac{9 + 6 + 10}{4} = \frac{25}{4}$ m

Material left $10 - \frac{25}{4} = \frac{10 \times 4 - 25}{4}$

$= \frac{15}{4} = 3\frac{3}{4}$ m

Thus $3\frac{3}{4}$ m material is left unstitched

7. Money spend = ₹ $85\frac{1}{2}$

Total Money $= \frac{(85 \times 2) + 1}{2} + \frac{(34 \times 2) + 1}{2}$

Total Money $= \frac{170 + 1}{2} + \frac{68 + 1}{1} = \frac{171 + 69}{2}$

Thus he have ` 120 in the beginning

Exercise 6.5

1. Man walks in 1 hour $= 5\frac{2}{3}$ km

He will walk in 6 hours $= 5\frac{2}{3} \times 6$ km

$= \frac{17}{3} \times 6$ km $= \frac{17 \times \cancel{6}^{2}}{\cancel{3}}$ km

Thus man walks 34 km in 6 hour.

2. Earning of labour in 1 day = ` $120\frac{2}{7}$

Earning of labour in 21 days = ` $120\frac{2}{7} \times 21$

= ` $\frac{842}{7} \times 21$ $\frac{842 \times \cancel{21}^{3}}{\cancel{7}}$

= ` 2526 Ans

Thus earning of labour of 21 days is ` 2526

3. Total persons were invited to attend the party = 100

Number of male members = $\frac{11}{20}$ of total person

$= \frac{11}{\cancel{20}} \times \cancel{100}^{5}$

Number of male members = 55

Number of female member = Total person – male member

= 100 – 55

= 45

Number of female members = 45

4. Cloth required to stitch a curtain = $2\frac{1}{4}$ m

Lady buys cloth = 18 m

No of curtains that will be stitched $= 18 \div 2\frac{1}{4}$

$= 18 \div \frac{9}{4}$ $= \cancel{18}^{2} \times \frac{4}{\cancel{9}}$

= 8 curtains **Ans**

So, 8 curtains will be stitched in 18 m of cloth

5. Container contains = $6\frac{3}{4}\ l$ milk

Capacity of bottles = $\frac{3}{4}\ l$

No of bottles that will be filled. $= 6\frac{3}{4}\ l \div \frac{3}{4}\ l$

$= \frac{27}{4} \div \frac{3}{4}$ $= \frac{27}{\cancel{4}} \times \frac{\cancel{4}}{3}$

= 9 bottles **Ans**

Revision

Do Yourself

Exercise 6.6

1. (a) $\frac{2}{7} \times 8 = \frac{2 \times 8}{7} = \frac{16}{7}$

(b) $\frac{16}{21} \times 9 = \frac{16 \times 9}{21} = \frac{144}{21} = \frac{48}{7}$

(c) $\frac{7}{16} \times 12$

$= \frac{12 \times 7}{16} = \frac{84}{16} = \frac{21}{4}$

(d) $7\frac{2}{3} \times 18$

$= \frac{23 \times 18}{3} = 138$

(e) $14\frac{2}{7} \times 21$

$= \frac{100 \times 21}{7} = 300$

(f) $\frac{5}{6} \times 14$

$= \frac{70}{6} = \frac{35}{3}$

(g) $\frac{2}{3} \times \frac{4}{5}$

$= \frac{8}{15}$

(h) $\frac{5}{6} \times \frac{8}{9}$

$= \frac{40}{54} = \frac{20}{27}$

(i) $\frac{4}{3} \times \frac{2}{3}$

$= \frac{8}{9}$

(j) $\frac{7}{9} \times \frac{9}{7}$

$= \frac{7 \times 9}{9 \times 7} = \frac{63}{63} = 1$

(k) $33\frac{1}{3} \times \frac{1}{10}$

$= \frac{100 \times 1}{3 \times 10} = \frac{100}{30} = \frac{10}{3}$

(l) $11\frac{1}{9} \times 7\frac{1}{5}$

$= \frac{100}{9} \times \frac{36}{5} = \frac{\cancel{100}^{20} \times \cancel{36}^{4}}{\cancel{9} \times \cancel{5}} = 80$

(m) $9\frac{2}{9} \times 4\frac{1}{2}$

$= \frac{83}{9} \times \frac{9}{2} = \frac{83 \times 9}{9 \times 2} = \frac{83}{2}$

(n) $\frac{7}{8} \times \frac{6}{7} \times \frac{15}{32}$

$= \frac{7 \times 6 \times 15}{8 \times 7 \times 32} = \frac{90}{256} = \frac{45}{128}$

(o) $\frac{13}{18} \times \frac{9}{11} \times \frac{2}{13}$

$= \frac{\cancel{13} \times 9 \times 2}{18 \times 11 \times \cancel{13}} = \frac{18}{18 \times 11} = \frac{1}{11}$

(p) $11\frac{1}{5} \times 4\frac{2}{7}$

$= \frac{56}{5} \times \frac{30}{7} = \frac{56 \times 6}{7} = 48$

(q) $3 \times \frac{8}{9} \times \frac{7}{15}$

$= \frac{\cancel{3} \times 8 \times 7}{\cancel{9}_{3} \times 15} = \frac{56}{45}$

(r) $\frac{8}{9} \times \frac{5}{6} \times \frac{4}{5}$

$= \frac{8 \times \cancel{5} \times 4}{9 \times 5 \times \cancel{5}} = \frac{32}{54} = \frac{16}{27}$

(s) $3\frac{2}{3} \times 5\frac{1}{11} \times 3\frac{3}{4}$

$= \frac{11}{3} \times \frac{56}{11} \times \frac{15}{4} = \frac{\cancel{11} \times 56 \times \cancel{15}^{5}}{\cancel{3} \times \cancel{11} \times 4}$

$= \frac{56 \times 5}{4} = 70$

(t) $2\frac{1}{3} \times 2\frac{1}{3} \times 2\frac{1}{3}$

$= \frac{7}{3} \times \frac{7}{3} \times \frac{7}{3} = \frac{7 \times 7 \times 7}{3 \times 3 \times 3} = \frac{343}{9}$

2. (a) $\frac{1}{11}$, (b) $\frac{1}{71}$, (c) $\frac{1}{639}$, (d) $\frac{1}{1072}$,

(e) $\frac{13}{7}$, (f) $\frac{21}{16}$, (g) $\frac{31}{23}$, (h) $\frac{41}{21}$,

(i) $\frac{35}{19}$, (j) $\frac{8}{15}$, (k) $\frac{9}{61}$, (l) $\frac{3}{40}$,

(m) $\frac{6}{41}$, (n) $\frac{7}{100}$, (o) $\frac{5}{76}$, (p) $\frac{2}{37}$

(q) $\frac{3}{53}$, (r) $\frac{2}{49}$, (s) $\frac{3}{70}$, (t) $\frac{3}{55}$

3. (a) $\frac{3}{5} \div 3$

$= \frac{3}{5} \times \frac{1}{3} = \frac{1}{5}$ Ans

(b) $\frac{8}{11} \div 16$

$= \frac{8}{11} \times \frac{1}{16} = \frac{1}{22}$ Ans

(c) $3\frac{1}{2} \div 28$

$= \frac{7}{2} \times \frac{1}{28} = \frac{1}{8}$ Ans

(d) $12\frac{1}{7} \div 5$

$= \frac{85}{7} \times \frac{1}{5} = \frac{17}{7}$ Ans

(e) $\frac{7}{29} \div \frac{7}{13}$

$= \frac{7}{29} \times \frac{13}{7} = \frac{13}{29}$ Ans

(f) $\frac{8}{11} \div 7\frac{1}{13}$

$= \frac{8}{11} \times \frac{3}{22} = \frac{12}{121}$ Ans

(g) $3\frac{1}{2} \div 2\frac{1}{4}$

$= \frac{7}{2} \div \frac{9}{4} = \frac{7}{\cancel{2}} \times \frac{\cancel{4}^{2}}{9} = \frac{14}{9}$ Ans

(h) $3\frac{2}{15} \div 1\frac{2}{15} = \frac{47}{15} \div \frac{17}{15} = \frac{47}{\cancel{15}} \times \frac{\cancel{15}}{17} = \frac{47}{17}$ Ans

(i) $18\frac{3}{4} \div 1\frac{7}{8} = \frac{75}{4} \div \frac{15}{8} = \frac{\cancel{75}^{5}}{4} \times \frac{8^{2}}{\cancel{15}} = 10$ Ans

(j) $18\frac{1}{2} \div \frac{3}{4} = \frac{37}{2} \div \frac{3}{4} = \frac{37}{\cancel{2}} \times \frac{\cancel{4}^{2}}{3} = \frac{74}{3}$ Ans

4. (a) $\frac{7}{10}$ to 210

$= \frac{7}{\cancel{10}} \times \cancel{210}^{21} = 147$

(b) $\frac{2}{9}$ to 99

$= \frac{2}{\cancel{9}} \times \cancel{99}^{11} = 22$

(c) $\frac{6}{13}$ to 143

$= \frac{6}{\cancel{13}} \times \cancel{143}^{11} = 66$

(d) $\frac{3}{5}$ to 240

$= \frac{3}{\cancel{5}} \times \cancel{240}^{48} =$ ` 144

(e) $\frac{3}{5}$ to ` 195.15

$= \frac{3}{\cancel{5}} \times \cancel{195}^{39.03}$-15 = ` 117.09

(f) $\frac{2}{7}$ of 490 m

$= \frac{2}{\cancel{7}} \times \cancel{490}_{70} = 140$ m

(g) $\frac{6}{9}$ of 8 km 100 m $= \frac{6}{\cancel{9}} \times \cancel{8}^{0.9} = 5.4 = 5$ km 400 m

(h) $\frac{7}{8}$ of 560 *ml*

$= \frac{7}{\cancel{8}} \times \cancel{560}^{70} = 490$ *ml*

(i) $\frac{11}{12}$ of 480 g

$= \frac{11}{\cancel{12}} \times \cancel{480}^{40} = 440$ g

(j) $\frac{9}{13}$ of 11*l* 700 *ml* g

$= \frac{9}{\cancel{13}} \times \cancel{11.7}^{0.9} = 8.1$

$= 8\ l\ 100\ ml$

(k) $\frac{9}{14}$ of 9 kg 828 g

$= \frac{9}{\cancel{14}} \times \cancel{9.828}^{0.702}$

$= 9 \times 0.702$

$= 6.318$

$= 6$ kg 318 g

(*l*) $\frac{1}{4}$ of 800 g $= \frac{1}{\cancel{4}} \times \cancel{800}^{200} = 200$ g

5. (a) $4 - \frac{2}{3} \times \frac{3}{4}$

$= 4 - \frac{2 \times 3}{3 \times 4} = 4 - \frac{1}{2}$

$= \frac{4 \times 2 - 1}{2} = \frac{7}{2}$ Ans

(b) $18\frac{1}{2} \times 3\frac{1}{2} \times 0$

$= \frac{37}{2} \times \frac{7}{2} \times 0$

$= \frac{37 \times 7 \times 0}{2 \times 2} = 0$ Ans

(c) $3\frac{3}{4} \times \frac{4}{5} + 2$

$= \frac{15}{4} \times \frac{4}{5} + 2 = \frac{\cancel{15}^{3} \times \cancel{4}}{\cancel{4} \times \cancel{5}} + 2 = 5$ Ans

(b) $2\frac{1}{2} \times 3\frac{1}{3} + 4\frac{1}{5} = \frac{4}{5} \times \frac{10}{3} + \frac{21}{5} = \frac{4 \times \cancel{10}^{2}}{\cancel{5} \times 3} + \frac{21}{5}$

$= \frac{8}{3} + \frac{21}{5} = \frac{8 \times 5 + 21 \times 3}{15} = \frac{40 + 63}{15} = \frac{103}{15}$

7 Decimal and Percentage

Exercise 7.1

1. Put the decimals in the numbers given in the table :

	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
(a)		1	2	5	7	3
(b)	2	0	4	3	2	5
(c)			3	2	4	6
(d)	7	8	5	4	6	0
(e)				3	7	5

2. Write the following in words :

(a) 2.643 = Two point six four three
(b) 13.532 = Thirteen point five three two
(c) 8.642 = Eight point six four two
(d) 128.503 = One hundred twenty-eight point five zero three
(e) 56.372 = Fifty-six point three seven two
(f) 0.760 = Zero point seven six zero
(g) 376.152 = Three hundred seventy-six point one five two
(h) 5.008 = Five point zero zero eight

3. Write the following in figures :

(a) 4.06 (b) 0.329 (c) 41.524
(d) 600.49 (e) 12.08 (f) .0008
(g) 0.426 (h) 45.0007

4. Write each of the following as decimals :

(a) $72 + \frac{2}{10} + \frac{7}{100} = 72.27$

(b) $43 + \frac{1}{10} + \frac{2}{1000} = 43.102$

(c) $30 + \frac{3}{10} + \frac{8}{100} + \frac{5}{1000} = 30.385$

(d) $\frac{4}{100} + \frac{5}{1000} = 0.045$

(e) $650 + \frac{2}{10} + \frac{5}{100} = 650.25$

(f) $100 + \frac{1}{10} + \frac{2}{100} = 100.12$

(g) $8 + \frac{8}{10} + \frac{8}{100} + \frac{8}{1000} = 8.888$

(h) $\frac{7}{100} + \frac{6}{1000} = 0.076$

Exercise 7.2

1. Write the following as decimals :

(a) $\frac{3}{10} = 0.3$ (b) $\frac{21}{10} = 2.1$

(c) $\frac{131}{10} = 13.1$ (d) $\frac{45}{10} = 4.5$

(e) $\frac{6}{100} = 0.06$ (f) $\frac{42}{100} = 0.42$

(g) $\frac{412}{100} = 4.12$ (h) $\frac{500}{100} = 5.00$

(i) $\frac{8645}{1000} = 8.645$ (j) $\frac{426}{1000} = 0.426$

(k) $\frac{27}{1000} = 0.027$ (l) $\frac{9184}{1000} = 9.184$

(m) $\frac{7}{1000} = 0.007$ (n) $\frac{6}{100} = 0.06$

(o) $\frac{973}{10} = 97.3$ (p) $\frac{8453}{100} = 84.53$

2. Write the following as fractions :

(a) $0.6 = \frac{6}{10}$ (b) $0.8 = \frac{8}{10}$

(c) $1.7 = \frac{17}{10}$ (d) $3.9 = \frac{39}{10}$

(e) $2.14 = \frac{214}{100}$ (f) $28.43 = \frac{2843}{100}$

(g) $0.83 = \frac{83}{100}$ (h) $0.03 = \frac{3}{100}$

(i) $2.15 = \frac{215}{100}$ (j) $12.38 = \frac{1238}{100}$

(k) $0.612 = \frac{612}{1000}$ (*l*) $2.875 = \frac{2875}{1000}$

(m) $10.532 = \frac{10532}{1000}$ (n) $4.67 = \frac{467}{100}$

(o) $9.312 = \frac{9312}{1000}$ (p) $10.250 = \frac{10250}{1000}$

3. Convert all the decimals in a group into like decimals :

(a) 3.72, 6.1, 152.923 = 3.720, 6.100, 152.923
(b) 2.93, 70.8, 3.274 = 2.930, 70.800, 3.274
(c) 7.8, 3.99, 1.242 = 7.800, 3.990, 1.242
(d) 16.67, 18.36, 2.007 = 16.670, 18.360, 2.007
(e) 35.6, 2.91, 3.46 = 35.60, 2.91, 3.46
(f) 2.6, 6.5109, 676.0 = 2.6000, 6.5109, 676.0000

4. Which of these groups of decimals are like:

Decimals of groups (a), (c) and (e) are like decimals.

Exercise 7.3

1. Write the following decimals in expanded form :

(a) $2.5 = 2 + \frac{5}{10} = 2 + 0.5$

(b) $3.61 = 3 + \frac{6}{10} + \frac{1}{100} = 3 + 0.6 + 0.01$

(c) $17.284 = 10 + 7 + \frac{2}{10} + \frac{8}{100} + \frac{4}{1000} = 10 + 7 + 0.2 + 0.08 + 0.004$

(d) $235.642 = 200 + 30 + 5 + \frac{6}{10} + \frac{4}{100} + \frac{2}{1000} = 200 + 30 + 5 + 0.6 + 0.04 + 0.002$

(e) $17.8 = 10 + 7 + \frac{8}{10} = 10 + 7 + 0.8$

(f) $13.03 = 10 + 3 + \frac{3}{100} = 10 + 3 + 0.03$

(g) $717.005 = 700 + 10 + 7 + \frac{5}{1000} = 700 + 10 + 7 + 0.005$

(h) $8.732 = 8 + \frac{7}{10} + \frac{3}{100} + \frac{2}{1000} = 8 + 0.7 + 0.03 + 0.002$

(i) $7.07 = 7 + \frac{7}{100} = 7 + 0.07$

(j) $13.134 = 10 + 3 + \frac{1}{10} + \frac{3}{100} + \frac{4}{1000} = 10 + 3 + 0.1 + 0.03 + 0.004$

(k) $2.005 = 2 + \frac{5}{1000} = 2 + 0.005$

(l) $31.73 = 30 + 1 + \frac{7}{10} + \frac{3}{100} = 30 + 1 + 0.7 + 0.03$

(m) $670.403 = 600 + 70 + \frac{4}{10} + \frac{3}{1000} = 600 + 70 + 0.4 + 0.003$

(n) $9.005 = 9 + \frac{5}{1000} = 9 + 0.005$

(o) $0.43 = \frac{4}{10} + \frac{3}{100} = 0.4 + 0.03$

(p) $0.002 = \frac{2}{1000} = 0.002$

2. Write the decimals for the following expanded form :

(a) $50 + 5 + \frac{5}{10} + \frac{5}{100} + \frac{5}{1000} = 50 + 5 + 0.5 + 0.05 + 0.005 = 55.555$

(b) $6 + \frac{7}{10} + \frac{8}{100} = 6 + 0.7 + 0.08 = 6.78$

(c) $70 + 6 + \frac{6}{100} + \frac{7}{1000} = 70 + 6 + 0.06 + 0.007 = 76.067$

(d) $90 + 9 + \frac{9}{10} + \frac{9}{100} + \frac{9}{1000} = 90 + 9 + 0.9 + 0.09 + 0.009 = 99.999$

(e) $100 + 2 + \frac{2}{1000} = 100 + 2 + 0.002 = 102.002$

(f) $7 + \frac{7}{10} + \frac{2}{100} = 7 + 0.7 + 0.02 = 7.72$

(g) $60 + 6 + \frac{4}{10} + \frac{5}{100} + \frac{7}{1000} = 60 + 6 + 0.4 + 0.05$
$+ 0.007 = 66.457$

(h) $700 + 80 + 5 + \frac{2}{100} + \frac{3}{1000} = 700 + 80 + 5 + 0.02$
$+ 0.003 = 785.023$

Exercise 7.4

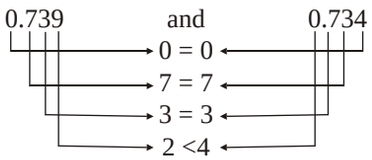
1. Compare the following decimals:

(a) In 1.73 and 2.84, comparing the whole number part, we have $1 < 2$
So, $1.73 < 2.84$

(b) In 6.432 and 5.734, comparing the whole number part, we have $6 > 5$
So, $6.432 > 5.734$

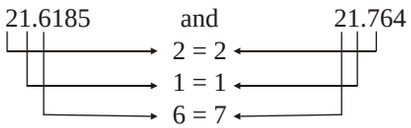
(c) In 32.3 and 13.05, comparing the whole number part, we have $32 > 13$
So, $32.3 > 13.05$

(d) In 0.732 and 0.734



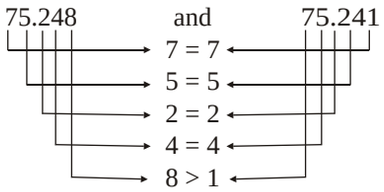
So, $0.732 < 0.734$

(e) In 21.6185 and 21.764



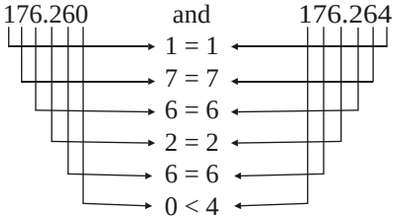
So, $21.6185 < 21.764$

(f) In 75.248 and 75.241



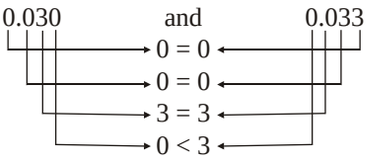
So, $75.248 > 75.241$

(g) In 176.260 and 176.264



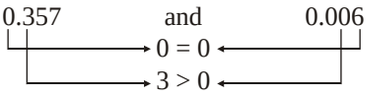
So, $176.260 < 176.264$

(h) In 0.030 and 0.033



So, $0.03 < 0.033$

(i) In 0.357 and 0.006



So, $0.357 > 0.006$

2. Write the following decimals in the ascending order:

Comparing the decimals the required ascending order is:

(a) $1.312 < 2.542 < 7.312 < 8.501$

(b) $0.6 < 0.76 < 1.74 < 2$

(c) $2.14 < 3.68 < 4.27 < 5.66$

(d) $0.63 < 7.241 < 8.325 < 19.621$

(e) $3.678 < 3.768 < 3.867 < 3.876$

(f) $8.384 < 8.83 < 8.843 < 9.87$

3. Write the following decimals in the descending order:

The required descending order is:

(a) $41.101 > 41.001 > 40.101 > 40.011$

(b) $444.42 > 44.41 > 4.442 > 4.44$

(c) $0.342 > 0.032 > 0.023 > 0.0032$

(d) $13.5 > 8.464 > 7.5 > 2.73$

(e) $6.1 > 2.16 > 1.62 > 1.6$

(f) $21.163 > 18.338 > 13.16 > 11.51$

Exercise 7.5

1. Find the sum :

(a)
$$\begin{array}{r} 0.4 \\ +\ 0.6 \\ \hline 1.0 \end{array}$$

(b)
$$\begin{array}{r} 7.28 \\ +\ 6.48 \\ \hline 13.76 \end{array}$$

(c)
$$\begin{array}{r} 19.35 \\ +\ 18.64 \\ \hline 37.99 \end{array}$$

(d)
$$\begin{array}{r} 0.008 \\ +\ 7.246 \\ \hline 7.254 \end{array}$$

(e)
$$\begin{array}{r} 13.73 \\ 2.4 \\ +\ 6.324 \\ \hline 22.454 \end{array}$$

(f)
$$\begin{array}{r} 5.7 \\ 3.86 \\ +\ 14.54 \\ \hline 19.10 \end{array}$$

(g)
$$\begin{array}{r} 89.310 \\ 3.024 \\ +\ 156.800 \\ \hline 249.134 \end{array}$$

(h)
$$\begin{array}{r} 6.070 \\ 2.532 \\ +\ 0.100 \\ \hline 8.702 \end{array}$$

2. Subtract :

(a)
$$\begin{array}{r} 0.62 \\ -\ 0.42 \\ \hline 0.20 \end{array}$$

(b)
$$\begin{array}{r} 15.3 \\ -\ 6.4 \\ \hline 8.9 \end{array}$$

(c)
$$\begin{array}{r} 1.005 \\ -\ 0.437 \\ \hline 0.613 \end{array}$$

(d) 26.08 − 18.36 = 7.72

(e) 1.00 − 0.973 = 0.027

(f) 240.3 − 87.64 = 152.66

(g) 376.50 − 24.89 = 351.61

(h) 214.8 − 16.72 = 198.08

3. Add the following decimals:

[Hint: Change the decimals into like decimals and write them in columns.]

(a) 3.50 + 16.48 + 24.60 = 44.58

(b) 5.23 + 1.72 + 6.10 = 13.05

(c) 16200 + 26.480 + 1.732 = 44.412

(d) 53.450 + 14.678 + 28.390 = 96.518

(e) 24.600 + 25.500 + 0.764 = 50.864

(f) 1325.16 + 162.24 + 188.27 = 1675.67

(g) 77.50 + 3.66 + 1.85 = 8301

(h) 8.260 + 3.240 + 0.324 = 11.824

4. Find the difference

[Hint: Change the decimals into like decimals and write them in columns.]

(a) 100.00 − 78.64 = 21.36

(b) 214.30 − 210.84 = 3.46

(c) 33.75 − 12.80 = 20.95

(d) 375.00 − 198.96 = 176.04

(e) 1000.00 − 246.47 = 753.53

(f) 360.500 − 195.489 = 165.011

(g) 10.000 − 6.84 = 3.16

(h) 240.3400 − 30.642 = 209.698

Exercise 7.6

Solve the following problems:

1. The sum of two numbers = 25.64
One of the numbers = −16.28
The other number = 9.36

So, the other number is 9.36.

2. Ram has = ` 410.50
Shyam has = − ` 316.25
Difference = ` 94.25

Thus, Ram has Rs 94.25 much more.

3. The cost of the pair of leather shoes = ` 725.85
The cost of the pair of sports shoes = − ` 550.75
Difference = ` 175.10

Therefore, the pair of leather shoes costs more and by ` 175.10.

4. The length of Sushil's journey = 1825.00 km
Sushil has been covered from it = −1425.84 km
The distance left to be covered = 399.16

So, 399.16 km is still left to be covered.

5. Rahul bought the wheat = 1.50 kg
Titoo bought the wheat = 7.25 kg
Lavi bought the wheat = +18.00 kg
The total amount of wheat = 26.75 kg

The total amount of wheat bought by them all altogether is 26.75 kg.

6. Govind walked on Sunday = 8.20 km
He walked on Monday = 7.80 km
He walked on Tuesday = + 4.67 km
Total distance Govind walked = 20.67 km

The distance walked by Govind during these three days is 20.67 km.

7. The milkman supplies milk to one customer = 3.50 *l*
He supplies milk to the other customer = + 8.45 *l*
Total amount of milk he supplies = 11.95 *l*
The milkman carries milk = 12.50 *l*
The amount of milk he supplies = +11.95 *l*
The amount of milk left with him = 0.55 *l*

So, 0.55 *l* of milk will be left with the milkman.

8. Komal got as pocket money = ` 75.25
Her brother got as pocket money = − ` 67.50
Difference = ` 7.75
Thus, Komal got ` 7.75 much more as pocket money.

Exercise 7.7

1. Find the product:

(a) 4.8 × 6

48 × 6 = 288

Thus, 4.8 × 6 = 28.8

(b) 3.5 × 7

35 × 7 = 245

Thus, 3.5 × 7 = 24.5

(c) 2.7 × 8

27 × 8 = 216

Thus, 2.7 × 8 = 21.6

(d) 14.5 × 1.2

145 × 12 = 290 + 1450 = 1740

Thus, 14.5 × 1.2 = 17.40

(e) 31.7 × 4.5

317 × 45 = 1585 + 12680 = 14265

Thus, 31.7 × 4.5 = 142.65

(f) 165.2 × 1.3

1652 × 13 = 4956 + 16520 = 21476

Thus, 165.2 × 1.3 = 214.76

(g) 3.65 × 24.4

365 × 244 = 1460 + 14600 + 73000 = 89060

(h) 76.3 × 2.8

763 × 28 = 6104 + 15260 = 21364

Thus, 3.65 × 24.4 = 89.060

Thus, 76.3 × 2.8 = 213.64

(i) 93.4 × 1.53

934
× 153
2802
46700
+ 93400
142902

(j) 286.3 × 1.02

2863
× 102
5726
00000
+ 286300
292026

Thus, 93.4 × 1.53 = 142.902

Thus, 286.3 × 1.02 = 292.026

(k) 3.278 × 1.08

3278
× 108
26224
00000
+ 327800
354024

(l) 789.2 × 3.5

7892
× 35
39460
+ 236760
276220

Thus, 3.278 × 1.08 = 3.54024

Thus, 789.2 × 3.5 = 2762.20

(m) 6.7 × 2.4

67
× 24
268
+ 1340
1608

(n) 9.13 × 2.14

913
× 214
3652
9130
+ 182600
195382

Thus, 6.7 × 2.4 = 16.08

Thus, 9.13 × 2.14 = 19.5382

(o) 567.2 × 4.03

5672
× 403
17016
00000
+ 2268800
2285.816

Thus, 567.2 × 4.03 = 2285.816

2. Multiply the following :

(a) 4.2 × 10 = 42
(b) 5.31 × 10 = 53.1
(c) 0.4 × 10 = 4
(d) 6.142 × 100 = 614.2
(e) 7.32 × 100 = 732
(f) 0.32 × 100 = 32
(g) 5.314 × 1000 =5314
(h) 6.7 × 1000 = 6700
(i) 8.32 × 1000 = 8320
(j) 9.2 × 10 = 92
(k) 0.003 × 1000 = 3
(l) 8.2 × 1000 = 8200
(m) 7.6 × 100 = 760
(n) 5.324 × 1000 = 5324
(o) 17.42 × 100 = 1742

Exercise 7.8

1. Divide :

(a) 16.8 ÷ 4

4.2
4) 16.8
− 16
08
− 8
0

(b) 25.5 ÷ 5

5.1
5) 25.5
− 25
05
− 5
0

Thus, 16.8 ÷ 4 = 4.2

Thus, 25.5 ÷ 5 = 5.1

(c) 173.4 ÷ 17

10.2
17) 173.4
− 17
034
− 34
0

(d) 8.32 ÷ 26

0.32
26) 8.32
− 75
52
− 52
0

Thus, 173.4 ÷ 17 = 10.2

Thus, 8.32 ÷ 26 = 0.32

(e) 34.3 ÷ 35

00.98
35) 34.30
− 315
280
− 280
0

(f) 75.15 ÷ 45

1.67
45) 75.15
− 45
301
− 270
315
− 315
0

Thus, 34.3 ÷ 35 = 0.98

Thus, 75.15 ÷ 45 = 1.67

(g) 1842.48 ÷ 18

102.36
18) 1842.48
− 18
042
− 36
64
− 54
108
− 108
0

(h) 505.84 ÷ 8

63.23
8) 505.84
− 48
25
− 24
18
− 16
24
− 24
0

Thus, 1842.48 ÷ 18 = 102.36

Thus, 505.84 ÷ 8 = 63.23

(i) 283.2 ÷ 12

23.6
12) 283.2
− 24
43
− 36
72
− 72
0

Thus, 283.2 ÷ 12 = 23.6

2. Perform the following divisions :

(a) $2.24 \div 1.6$
$= 22.4 \div 16$
$= 1.4$
Thus, $2.24 \div 1.6 = 1.4$

$$\begin{array}{r} 1.4 \\ 16\overline{)\,22.4} \\ -\,16 \\ \hline 64 \\ -\,64 \\ \hline 0 \end{array}$$

(b) $7.83 \div 8.7$
$= 78.3 \div 87$
$= 0.9$
Thus, $7.83 \div 8.7 = 0.9$

$$\begin{array}{r} 00.9 \\ 87\overline{)\,78.3} \\ -\,78.3 \\ \hline 0 \end{array}$$

(c) $0.408 \div 0.17$
$= 40.8 \div 17$
$= 2.4$
Thus, $0.408 \div 0.17 = 2.4$

$$\begin{array}{r} 2.4 \\ 17\overline{)\,40.8} \\ -\,34 \\ \hline 68 \\ -\,68 \\ \hline 0 \end{array}$$

(d) $6.25 \div 0.025$
$= 6250 \div 25$
$= 250$
Thus, $6.25 \div 0.025 = 250$

$$\begin{array}{r} 250 \\ 25\overline{)\,6250} \\ -\,50 \\ \hline 125 \\ -\,125 \\ \hline 00 \end{array}$$

(e) $0.213 \div 0.3$
$= 213 \div 300$
$= 0.71$
Thus, $0.213 \div 0.3 = 0.71$

$$\begin{array}{r} 000.71 \\ 300\overline{)\,213.00} \\ -\,2100 \\ \hline 300 \\ -\,300 \\ \hline 0 \end{array}$$

(f) $76.363 \div 0.07$
$= 7636.3 \div 7$
$= 1090.9$
Thus, $76.363 \div 0.07 = 1090.9$

$$\begin{array}{r} 1090.9 \\ 7\overline{)\,7636.3} \\ -\,7 \\ \hline 063 \\ -\,63 \\ \hline 063 \\ -\,63 \\ \hline 0 \end{array}$$

(g) $0.0318 \div 0.12$
$= 3.18 \div 12$
$= 0.265$
Thus, $0.0318 \div 0.12 = 0.265$

$$\begin{array}{r} 0.265 \\ 12\overline{)\,003.18} \\ -\,24 \\ \hline 78 \\ -\,72 \\ \hline 60 \\ -\,60 \\ \hline 0 \end{array}$$

(h) $15.525 \div 0.115$
$= 15525 \div 115$
$= 135$
Thus, $15.525 \div 0.115 = 135$

$$\begin{array}{r} 135 \\ 115\overline{)\,15525} \\ -\,115 \\ \hline 402 \\ -\,345 \\ \hline 575 \\ -\,575 \\ \hline 0 \end{array}$$

(i) $3.44 \div 1.6$
$= 34.4 \div 16$
$= 2.15$
Thus, $3.44 \div 1.6 = 2.15$

$$\begin{array}{r} 2.15 \\ 16\overline{)\,3.44} \\ -\,32 \\ \hline 24 \\ -\,16 \\ \hline 80 \\ -\,80 \\ \hline 0 \end{array}$$

(j) $2.4381 \div 2.25$
$= 243.81 \div 225$
$= 1.0836$
Thus, $2.4381 \div 2.25 = 1.0836$

$$\begin{array}{r} 1.0836 \\ 225\overline{)\,243.8100} \\ -\,225 \\ \hline 1881 \\ -\,1800 \\ \hline 810 \\ -\,675 \\ \hline 1350 \\ -\,1350 \\ \hline 0 \end{array}$$

(k) $4.744 \div 0.16$
$= 474.4 \div 16$
$= 29.65$
Thus, $4.744 \div 0.16 = 29.65$

$$\begin{array}{r} 29.65 \\ 16\overline{)\,4.744} \\ -\,32 \\ \hline 154 \\ -\,144 \\ \hline 104 \\ -\,96 \\ \hline 80 \\ -\,80 \\ \hline 0 \end{array}$$

(*l*) $0.0864 \div 2.4$
$= 0.864 \div 24$
$= 0.036$
Thus, $0.0864 \div 2.4 = 0.036$

$$\begin{array}{r} 0.036 \\ 24\overline{)\,0.864} \\ -\,72 \\ \hline 144 \\ -\,144 \\ \hline 0 \end{array}$$

3. Find the quotient:

(a) $7.25 \div 10 = 0.725$
(b) $8.6 \div 10 = 0.86$
(c) $0.3 \div 10 = 0.03$
(d) $2.4 \div 100 = 0.024$
(e) $28.97 \div 100 = 0.2897$
(f) $7.1285 \div 100 = 0.071285$
(g) $2.8 \div 1000 = 0.0028$
(h) $17.23 \div 1000 = 0.01723$
(i) $215.2 \div 100 = 2.152$

Exercise 7.9

Solve the following problems:

1. The cost of 1 fancy cap = ` 44.50
So, the cost of 12 fancy cap = ` (44.50 × 12)
= ` 534.00

$$\begin{array}{r} 44.50 \\ \times\ 12 \\ \hline 8900 \\ +\ 44500 \\ \hline 534.00 \end{array}$$

Thus, the cost of 12 fancy caps is ` 534.00.

2. The cost of 22.5 kg of apples = ` 243.81
So, the cost of 1 kg of apples = ` (243.81 ÷ 22.5)
= ` (2438.1 ÷ 225)
= ` 10.836 or ` 10.84
Thus, the cost of 1 kg of apple is ` 10.84.

```
      10.836
225 ) 2438.100
    – 225
      1881
    – 1800
       810
     – 675
       1350
     – 1350
        0
```

3. The area of a rectangle = length × breadth
Or, L × B = A
So, L × 1.6 cm = 4.744 sq cm
L = (4.744 ÷ 1.6) cm
= (47.44 ÷ 16) cm
= 2.965 cm

```
      2.965
16 ) 47.440
   – 32
     154
   – 144
     104
    – 96
      80
    – 80
      0
```

Thus, the length of the rectangle is 2.965 cm.

4. The cost of 15 kg of mangoes = ` 300.75
So, the cost of 1 kg of mangoes = ` (300.75 ÷ 15)
= ` 20.05

```
     20.05
15 ) 300.75
   – 30
     075
    – 75
      0
```

Thus the cost of 1 kg apples is ` 20.05.

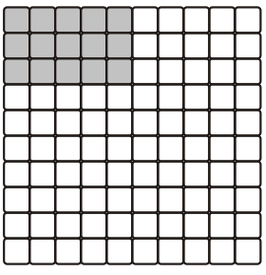
5. The cost of 1m cloth = ` 48.50
So, the cost of 12.75 m of cloth = ` (48.50 × 12.75)
= ` 618.3750
= ` 618.38

```
   48.50
 × 12.75
  24250
 339500
 970000
+4850000
 618.3750
```

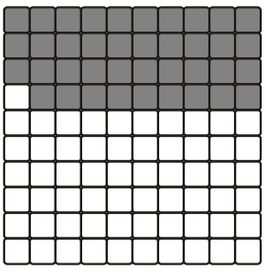
Thus, the cost of 12.75 m of cloth is ` 618.38

Exercise 7.10

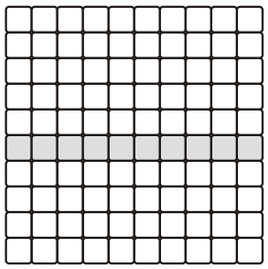
1. What percentage of the square is shaded :

(a) 

$\frac{15}{100} = 15\%$

(a) 

$\frac{39}{100} = 39\%$

(c) 

$\frac{10}{100} = 10\%$

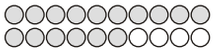
2. Write the shaded part as percentage :

(a) 

$\frac{4}{10} = 40\%$

(b) 

$\frac{3}{5} = 60\%$

(c) 

$\frac{16}{20} = 80\%$

3. Write the following fractions as percentage :

(a) $\frac{3}{5} = \frac{3}{\cancel{5}_1} \times \frac{\cancel{100}^{20}}{100} = \frac{3}{5} \times \frac{1}{100} = 60\%$

(b) $\frac{4}{10} = \frac{4}{\cancel{10}_1} \times \frac{\cancel{100}^{10}}{100} = 40 \times \frac{1}{100} = 40\%$

(c) $\frac{1}{2} = \frac{1}{\cancel{2}_1} \times \frac{\cancel{100}^{50}}{100} = 50 \times \frac{1}{100} = 50\%$

(d) $\frac{1}{4} = \frac{1}{\cancel{4}_1} \times \frac{\cancel{100}^{25}}{100} = 25 \times \frac{1}{100} = 25\%$

4. Write the following percentages as fractions :

(a) $45\% = \frac{\cancel{45}^{9}}{\cancel{100}_{20}} = \frac{9}{20}$

(b) $60\% = \frac{\cancel{60}^{3}}{\cancel{100}_{5}} = \frac{3}{5}$

(c) $35\% = \frac{\cancel{35}^{7}}{\cancel{100}_{20}} = \frac{7}{20}$

(d) $85\% = \frac{\cancel{85}^{17}}{\cancel{100}_{20}} = \frac{17}{20}$

5. Write the following decimal fractions as percentages :

(a) $.85 = \frac{85}{100} = 85 \times \frac{1}{100} = 85\%$

(b) $.32 = \frac{32}{100} = 32 \times \frac{1}{100} = 32\%$

(c) $.43 = \frac{43}{100} = 43 \times \frac{1}{100} = 43\%$

(d) $.058 = \frac{58}{1000} = \frac{58}{10 \times 100} = \frac{58}{10} \times \frac{1}{100} = 5.8 \times \frac{1}{100} = 5.8\%$

6. Write the following percentages as decimal fractions :

(a) $35\% = 35 \times \frac{1}{100} = \frac{35}{100} = 0.35$

(b) $83\% = 83 \times \frac{1}{100} = \frac{83}{100} = 0.83$

(c) $62\% = 62 \times \frac{1}{100} = \frac{62}{100} = 0.62$

(d) $26\% = 26 \times \frac{1}{100} = \frac{26}{100} = 0.26$

Revision

Do yourself

8 Geometry

Exercise 8.1

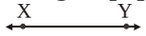
1. Name the figures:

(a) Ray $\overrightarrow{XY}$ (b) Line segment $\overline{AB}$

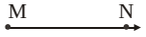
(c) Line $\overleftrightarrow{PQ}$ or $\overleftrightarrow{QP}$ (d) Plane $\overrightarrow{P}$

2. Represent the following on paper :

(a) $\overleftrightarrow{XY}$:



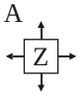
(b) $\overrightarrow{MN}$:



(c) $\overline{PQ}$:

(d) Point A :

(e) Plane z :



3. Write True or False:

(a) True (b) False (c) False

(d) True (e) False

4. Name different:

(a) Line segments : AB, BF, FE, EA, AF, FC, CD, DF, BD, EC

(b) Lines : Line(l) = OP, Line(m) = LM

(c) Rays : OA, OP, OB

Exercise 8.2

1. Name the following three angles in three different ways :

(a) ABC, CBA, B (b) LMN, NML, M

(c) RST, TSR, S

2. Which of the following figures represent angles :

Figures (b) and (d)

3. Write the name of the angles using the letters :

(a) 1 = AOC (b) 2 = COB

(c) 3 = BOD (d) 4 = DOA

4. For each of the angles, name the vertex and the arms:

(a) Vertex = B, Arms = BA, BC

(b) Vertex = S, Arms = ST, SR

(c) Vertex = Y, Arms = YX, YZ

(d) Vertex = M, Arms = ML, MN

Exercise 8.3

1. Measure the following angles using a protractor:

(a) ABC = 60° (b) XYZ = 90°

(c) PQR = 120° (d) LMN = 60°

2. Write the measures of the angles in the figures:

(a) BOA = 40° (b) BOC = 30°

(c) BOD = 70° (d) BOE = 100°

(e) AOC = 70° (f) AOD = 110°

(g) AOE = 140° (h) COD = 40°

(i) COE = 70°

Exercise 8.4

1. Tick (✓) the correct answer :

(a) (ii) an angle (b) (i) degrees

(c) (iii) vertex (d) (iii) protractor

2. Classify the angles as acute, obtuse, right or straight angle :

(a) acute angle (b) obtuse angle

(c) right angle (d) acute angle

(e) obtuse angle (f) acute angle

3. Name the angles formed by the hands of the clocks :

(a) right angle (b) acute angle

(c) obtuse angle (d) obtuse angle

(e) straight angle (f) straight angle

Exercise 8.5

1. Do yourself "

2. Name the angles given below as acute, right, obtuse or straight angles :

(a) 72° = Acute angle (b) 95° = Obtuse angle

(c) 90° = Right angle (d) 180° = Straight angle

(e) 67° = Acute angle (f) 36° = Acute angle

(g) 11° = Acute angle (h) 20° = Acute angle

3. Do yourself

4. Name all the angles shown in the figure :

AOD, AOC, AOB, BOD, BOC, COD

Exercise 8.6

1. Name the following triangles on the basis of their sides :

(a) Isosceles triangle (b) Scalene triangle

(c) Equilateral triangle (d) Scalene triangle

(e) Isosceles triangle (f) Scalene triangle

2. Find the third angle of the following triangles :

(a) We know that, A + B + C = 180°

A + B = 60° + 50° = 110°

So, C = 180° - 110° = 70°

(b) We know that, P + Q + R = 180°

P + Q = 80° + 30° = 110°

So, R = 180° - 110° = 70°

(C) We know that, L + M + N = 180°

A + B = 40° + 80° = 120°

So, N = 180° - 120° = 60°

3. Name the following triangles on the basis of their angles :

(a) Acute-angled triangle (b) Right-angled triangle

(c) Acute-angled triangle (d) Acute-angled triangle

(e) Right-angled triangle (f) Obtuse-angled triangle

Exercise 8.7

1. Tick (✓) the correct answer:

(a) (iv) many (b) (iii) 8 cm (c) (i) 2 cm

2. Do yourself

3. Name the parts of the circle in the given figure :

(a) Centre = C (b) Radius = CR

(c) Diameter = AB (d) Chord = ML

(e) Arc = MAL

4. Find the radii of the circles as with the following diameters :

(a) Radius = $\frac{\text{Diameter}}{2} = \frac{6}{2}$ cm = 3 cm

(b) Radius = $\frac{\text{Diameter}}{2} = \frac{8}{2}$ cm = 4 cm

(c) Radius = $\frac{\text{Diameter}}{2} = \frac{10}{2}$ cm = 5 cm

(d) Radius = $\frac{\text{Diameter}}{2} = \frac{12}{2}$ cm = 6 cm

(e) Radius = $\frac{\text{Diameter}}{2} = \frac{14}{2}$ cm = 7 cm

(f) Radius = $\frac{\text{Diameter}}{2} = \frac{9}{2}$ cm = 4.5 cm

5. Find the diameters of the circles with the following radii :

(a) Diameter = 2 × Radius = (2 × 5) cm = 10 cm

(b) Diameter = 2 × Radius = (2 × 6) cm = 12 cm

(c) Diameter = 2 × Radius = (2 × 4) cm = 8 cm

(d) Diameter = 2 × Radius = (2 × 8) cm = 16 cm

(e) Diameter = 2 × Radius = (2 × 7) cm = 14 cm

(f) Diameter = 2 × Radius = (2 × 3.5) cm = 7 cm

Revision

1. Fill in the blanks :

(a) plane (b) two rays (c) rays

(d) 90°, 180° (e) different

2. Measure the angles in the figure and classify them as acute, obtuse, straight or right angles:

(a) AOQ = 60° : Acute angle

(b) AOS = 120° : Obtuse angle

(c) AOT = 150° : Obtuse angle

(d) AOB = 180° : Straight angle

(e) POT = 120° : Obtuse angle

(f) POS = 90° : Right angle

3. Do yourself

4. The sum of all three angles of a triangle = 180°

The sum of two angles = 115° + 15° = 130°

So, the third angle = 180° - 130° = 50°

5. Do yourself

6. Write True or False. Rewrite the incorrect statements :

(a) False. You can measure a line segment, but cannot measure a ray and a line.

(b) True

(c) False. A right-angled triangle has one right angle.

(d) True

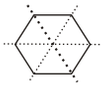
7. Complete the following table :

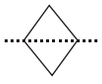
	Circumference (cm)	**Diameter** (cm)	**Radius** (cm)
(a)	2.4	0.8	0.4
(b)	21.6	7.2	3.6
(c)	18	6	3
(d)	5.4	1.8	0.9
(e)	59.4	19.8	9.9

9 Symmetry

Exercise 9.1

1. Draw the line of symmetry for these shapes :

(a)  (b) 

(c)  (d) 

2. Draw the line of symmetry in the following letters :

(a)  (b)  (c)  (d) 

3. Fill in the blanks :

(a) Three (b) three (c) line (d) two

4. Tick (✓) the letter that has both vertical and horizontal line of symmetry :

Answer : H ✓

5. Do yourself

10 Perimeter and Area

Exercise 10.1

1. Find the perimeter of the rectangles in cm:

(a) Perimeter of the rectangle = $2 \times (l + b)$
$= 2 \times (45 + 30)$ cm
$= (2 \times 75)$ cm $= 150$ cm

(b) Perimeter of the rectangle = $2 \times (l + b)$
$= 2 \times (22.5 + 15)$ cm
$= (2 \times 37.5)$ cm
$= 75.0$ cm

(c) Perimeter of the rectangle = $2 \times (l + b)$
Here, $l = 1.5$ m $= (1.5 \times 100)$ cm $= 150$ cm,
So, perimeter of the rectangle = $2 \times (150 + 90)$ cm
$= (2 \times 240)$ cm $= 480$ cm

(d) Perimeter of the rectangle = $2 \times (l + b)$
Here, $l = 51.7$ m $= (51.7 \times 100)$ cm $= 5{,}170$ cm,
and b $= 29.5$ m $= (29.5 \times 100)$ cm $= 2{,}950$ cm
So, perimeter of rectangle = $2 \times (5170 + 2950)$ cm
$= (2 \times 8120)$ cm
$= 16240$ cm

2. Find the perimeter of squares whose sides are :

(a) Perimeter of the square = $4 \times S$
$= (4 \times 92)$ cm
$= 368$ cm

(b) Perimeter of the square = $4 \times S$
$= (4 \times 71.9)$ cm
$= 287.6$ cm

(c) Perimeter of the square = $4 \times S$
$= (4 \times 195)$ mm
$= 780$ mm

(d) Perimeter of the square = $4 \times S$
$= (4 \times 47)$ m
$= 188$ m

(e) Perimeter of the square = $4 \times S$
$= (4 \times 60.06)$ m
$= 240.24$ m

(f) Perimeter of the square = $4 \times S$
$= (4 \times 97)$ cm
$= 388$ cm

(g) Perimeter of the square = $4 \times S$
$= (4 \times 37)$ cm
$= 148$ cm

(h) Perimeter of the square = $4 \times S$
$= (4 \times 19)$ cm
$= 76$ cm

3. Find the side of squares whose perimeters are :

(a) Perimeter of the square = $4 \times S$
80 cm = $4 \times S$
S = $(80 \div 4)$ cm
$= 20$ cm
Thus, each side of the square is 20 cm.

(b) Perimeter of the square = $4 \times S$
208 mm = $4 \times S$
S = $(208 \div 4)$ mm
$= 52$ mm
Thus, each side of the square is 52 mm.

(c) Perimeter of the square = $4 \times S$
72.4 cm = $4 \times S$
S = $(72.4 \div 4)$ cm
$= 18.1$ cm
Thus, each side of the square is 18.1 cm.

(d) Perimeter of the square = $4 \times S$
31 m = $4 \times S$
S = $(31 \div 4)$ m
$= 7.75$ m
Thus, each side of the square is 7.75 m.

(e) Perimeter of the square = $4 \times S$
66.8 m = $4 \times S$
S = $(66.8 \div 4)$ m
$= 16.7$ m
Thus, each side of the square is 16.7 m.

(f) Perimeter of the square = $4 \times S$
99 m = $4 \times S$
S = $(99 \div 4)$ m
$= 24.75$ m
Thus, each side of the square is 24.75 m.

(g) Perimeter of the square = 4 × S
240 cm = 4 × S
S = (240 ÷ 4) cm
= 60 cm
Thus, each side of the square is 60 cm.

(h) Perimeter of the square = 4 × S
178 m = 4 × S
S = (178 ÷ 4) m
= 44.5 m
Thus, each side of the square is 44.5 m.

4. Perimeter of the rectangular playground = 2 × (*l* + *b*)
= 2× (125 + 95)
= (2 × 220) m
= 440 m
The boy walks around the playground = 3 times
= 3 × Perimeter of the playground = (3 × 440) m
= 1320 m
So, the boy covers the distance of 1320 m.

5. Perimeter of the painting = 2 × (*l* + *b*)
= 2 × (25 + 18) cm
= (2 × 43) cm
= 86 cm
Ribbon needed to fix around the painting 1 time = 1 × Its perimeter
Ribbon needed to fix around the painting 3 times
= 3 × Its perimeter
= (3 × 86) cm
= 258 cm
Anju has the ribbon = 150 cm
So, more ribbon will be needed = (258 - 150) cm
= 108 cm
Thus, 108 cm more ribbon will be needed to fix around the painting 3 times.

6. Length of the wire needed to fence the garden = Perimeter of the garden.
Perimeter of the rectangular garden = 2 × (l + b)
= 2 × (65 + 58) m
= (2 × 123) m
= 246 m
So, the wire needed to fence the garden is 246 m
Cost of fencing 1 m = ` 3
Cost of fencing 246 m = ` (3 × 246)
= ` 738

7. Perimeter of the square = 4 × S
272 m = 4 × S
S = (272 ÷ 4) m
= 68 m
So, the each side of the square is 68 m.

8. Side of the square garden = 100 m
Perimeter of the garden = 4 × S
= (4 × 100) m
= 400 m
Rahul runs 400 m along the sides of the garden = 1 time
So, Rahul runs 1600 m along the sides of the garden = (1600 ÷ 400) times = 4 times
Thus, if Rahul wants to cover 1600 m, he should run 4 times.

9. Perimeter of the rectangle = 30 cm, Breadth = 6 cm

Length of the rectangle = $\frac{Perimeter}{2} - Breadth$

So, Length = $\frac{30}{2} - 6$

15 – 6 = 9 cm.

Thus, the length of the rectangle is 9 cm.

Exercise 10.2

1. Find the area of the following figures, if each square is of 1 sq cm:

(a) Number of squares covered by the figure
Complete squares = 4
Half squares = 6
Area of the figure = (4 + 1/2 × 6) sq cm
= (4 + 3) sq cm
= 7 sq cm

(b) Number of squares covered by the figure
Complete squares = 8
More than half squares = 4
Less than half squares = 4 (ignored)
Area of the figure = (8 + 4) sq cm
= 12 sq cm

(c) Number of squares covered by the figure
Complete squares = 7
More than half squares = 2
Less than half squares = 1 (ignored)
Area of the figure = (7 + 2) sq cm
= 9 sq cm

(d) Number of squares covered by the figure
Complete squares = 4
Half squares = 12
Area of the figure = (4 + 1/2 × 12) sq cm
= (4 + 6) sq cm
= 10 sq cm

(i) Figure (b) has the biggest area.
(ii) Figure (a) has the smallest area.

2. Find the area of the figures, if area of each square is 1 sq cm:

(a) Number of squares covered by the figure
Complete squares = 8
More than half squares = 5
Less than half squares = 3 (ignored)
Area of the figure = (8 + 5) sq cm
= 13 sq cm

(b) Number of squares covered by the figure
More than half squares = 8
Less than half squares = 20 (ignored)
Area of the figure = 8 sq cm

(c) Number of squares covered by the figure
Complete squares = 6
More than half squares = 9
Half squares = 2
Less than half squares = 4 (ignored)

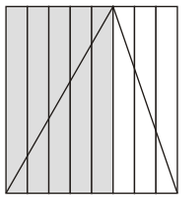
Area of the figure = (6 + 9 + 1/2 × 2) sq cm
= (6 + 9 + 1) sq cm
= 16 sq cm

(i) Figure (c) has the biggest area.
(ii) Figure (b) has the smallest area.

3. Find the area of the figures, if the area of each square is 1 sq cm:

(a) The triangle is just half of the rectangle
The rectangle is filled with 30 squares
Area of the rectangle = 30 sq cm
Thus, the area of the triangle = $\frac{1}{2}$ × 30 sq cm = 15 sq cm

(b) We divide the rectangle into two smaller rectangles so that the triangle contains the half of each smaller rectangle
Area of coloured rectangle = 30 sq cm
Area of white rectangle = 18 sq cm
Area of triangle = (1/2 × 30 + 1/2 × 18) sq cm
= (15 + 9) sq cm
= 24 sq cm



Exercise 10.3

1. Find the area of the rectangle in square metres:

(a) **Given :** l = 15 cm = $\frac{15}{100}$ m, b = 9 cm $\frac{9}{100}$ m,

Area of the rectangle = $l \times b$
= $\left(\frac{15}{100} \times \frac{9}{100}\right)$ sq m
= $\frac{135}{10{,}000}$ = 0.0135 sq m
= 0.0135 sq m

(b) **Given :** l = 56 cm = $\frac{56}{100}$ m, b = 40.5 cm = $\frac{40.5}{100}$ m,
= $\frac{405}{1000}$ m

Area of the rectangle = $l \times b$
= $\left(\frac{56}{100} \times \frac{405}{1000}\right)$ sq m
= $\frac{22680}{100000}$ sq m
= 0.22680 sq m
= 0.2268 sq m

405 × 56 = 2430 + 20250 = 22680

(c) **Given :** l = 2.8 m = $\frac{28}{10}$ m, b = 80 cm = $\frac{80}{100}$ cm

Area of the rectangle = $l \times b$
= $\left(\frac{28}{10} \times \frac{80}{100}\right)$ sq m
= $\frac{2240}{1000}$ sq m = 2.240 sq m
= 2.24 sq m

(d) **Given :** l = 35 m, b = $29\frac{2}{7}$ m = $\frac{205}{7}$ m

Area of the rectangle = $l \times b$ $\left(35 \times \frac{205}{\cancel{7}_{1}}\right)$ sq m
= (5 × 205) sq m
= 1025 sq m

(e) **Given :** b = 21.7 m = $\frac{217}{10}$ m l = 9.6 m = $\frac{96}{10}$ m

Area of the rectangle = $l \times b$
= $\left(\frac{217}{10} \times \frac{96}{10}\right)$ sq m
= $\frac{20832}{100}$ sq m
= 208.32 sq m

217 × 96 = 1302 + 19530 = 20832

(f) **Given :** l = $7\frac{3}{4}$ m = $\frac{31}{4}$ m, b = 76.4 cm = $\frac{76.4}{100}$ m,
= $\frac{764}{1000}$ m

Area of the rectangle = $l \times b$
= $\left(\frac{31}{4} \times \frac{764}{1000}\right)$ sq m
= $\left(\frac{31 \times 191}{1000}\right)$ sq m
= $\frac{5921}{1000}$ sq m
= 5.921 sq m

191 × 31 = 191 + 5730 = 5921

2. Find the area of the squares whose one side is :

(a) Area of the square = S × S
= (7 × 7) sq cm = 49 sq cm

(b) Area of the square = S × S
= (24.3 × 24.3) sq m
= $\left(\frac{243}{10} \times \frac{243}{10}\right)$ sq m
= $\frac{59049}{100}$ sq m
= 590.49 sq m

243 × 243 = 729 + 9720 + 48600 = 59049

(c) Area of the square = S × S
= (12.9 × 12.9) sq cm
= $\left(\frac{129}{10} \times \frac{129}{10}\right)$ sq m
= $\frac{16641}{100}$ sq m
= 166.41 sq cm

129 × 129 = 1161 + 2580 + 12900 = 16641

(d) Area of the square = S × S
= $\left(\frac{340}{100} \times \frac{340}{100}\right)$ sq m
= $\frac{34 \times 34}{100}$ sq m
= $\frac{1156}{100}$ sq m
= 11.56 sq cm

34 × 34 = 136 + 1020 = 1156

3. Length of the playground (l) = 7.25 m
Breadth of the playground (b) = 5.5 m
Area of a rectangle = $l \times b$

Area of the playground = (7.25 × 5.5) sq m

$$\begin{array}{r} 725 \\ \times 55 \\ \hline 3625 \\ +36250 \\ \hline =39875 \end{array} \quad = \left(\frac{725}{100} \times \frac{55}{10}\right) \text{ sq m} = \frac{39875}{1000} \text{ sq m} = 39.875 \text{ sq m}$$

4. Area of a square = S × S

Area of the square field = (110 × 110) sq m

= 12100 sq m

5. Area of the rectangular carpet = $l \times b$

$$\begin{array}{r} 116 \\ \times 14 \\ \hline 464 \\ +1160 \\ \hline =1624 \end{array} \quad = (14 \times 11.6) \text{ sq m} = \left(14 \times \frac{116}{10}\right) \text{ sq m} = \frac{1624}{10} \text{ sq m} = 162.4 \text{ sq m}$$

Area of the square carpet = S × S

= (15 × 15) sq m

= 225 sq m

Comparing the areas, we find, 225 sq m > 162.4 sq m

Thus, the square carpet of side 15 m is bigger.

6. Area of the rectangular playground = $l \times b$

= (150 × 92) sq m

= 13800 sq m

The cost laying grass in the area of 1 sq m = ` 0.75

The cost of laying grass in the area of 13800 sq m = ` (0.75 × 13800)

` $\left(\frac{75}{100} \times 13800\right)$ sq m

= ` (75 × 138)

= ` 10,350

Thus, the cost of laying grass all over the rectangular playground is ` 10,350

7. Area of the square plot = S × S

$$\begin{array}{r} 1880 \\ \times 256 \\ \hline 11280 \\ +376000 \\ \hline =481280 \end{array}$$

= ` (16 × 16) sq m

= ` 256 sq m

The cost of 1 sq m area = ` 1880

The cost of 256 sq m area = ` (1880 × 256) = ` 4,81,280

Thus, the cost of the plot is ` 4,81,280

8. Area of 1 poster = $l \times b$

= (0.75 × 0.90) sq m

$= \left(\frac{75}{100} \times \frac{90}{100}\right)$ sq m = $\frac{675}{1000}$ sq m

= 0.675 sq m

Area of the notice board = 8 × Area of 1 poster

= (8 × 0.675) sq m

= 5.400 or 5.4 sq m

So, the area of the notice board is 5.4 sq m.

9. Perimeter of the square = 4 × S

40 cm = 4 × S

S = $\frac{40}{4}$ cm = 10 cm

Area of the square = S × S

= (10 × 10) sq cm

= 100 sq cm

Thus the area of the square is 100 sq cm.

10. What would be the minimum length of fencing required for an animals pen of area 24 sq m? Complete the table and find the answer :

Animals pen	Length (m)	Breadth (m)	Area (sq m)	Perimeter (m)
A	6	4	24	20
B	12	2	24	28
C	8	3	24	22
D	9.6	2.5	24	24.2

Revision

1. Fill the table :

	Length	Breadth	Perimeter	Area
(a)	12.9 m	7.1 m	40 m	91.59 m^2
(b)	25.4 cm	32 cm	114.8 cm	812.8 cm^2
(c)	13.9 cm	11.7 cm	51.20 cm	162.63 sq cm

2. Perimeter of the rectangular garden = 2 × (l + b)

= 2 × (95 + 80) m

= (2 ×175) m

= (2 ×175 ×100) cm

= 35,000 cm

Rohit covers 35 cm in = 1 step

He will take in 35,000 cm = $\frac{35000}{35}$ steps = 1000 steps

Thus, Rohit will take 1000 steps to run once around the garden.

3. Perimeter of the square field = 4 × S

= (4 × 82) m = 328 m

Area of the square field = S × S

$$\begin{array}{r} 82 \\ \times 82 \\ \hline 164 \\ +6560 \\ \hline =6724 \end{array} \quad = (82 \times 82) \text{ sq m} = 6724 \text{ sq m}$$

4. Find the area of each letter, if the area of each square is 1 sq cm:

(a) A = 1 complete sq + 7 more than half sq + 2 half sq + 3 less than half sq (ignored)

$= (1+7+2 \times \frac{1}{2})$ sq cm = (1 + 7 + 1) sq cm

= 9 sq cm

(b) R = 4 complete sq + 7 more than half sq + 2 less than half sq ignored)

= (4 + 7) sq cm = 11 sq cm

(c) E = 6 complete sq + 4 half sq + 2 less than half sq (ignored)

$= (6 + 4 \times \frac{1}{2})$ sq cm = (6 + 2)

= 8 sq cm

(d) A = 1 complete sq + 7 more than half sq + 2 half sq + 3 less than half sq (ignored)

$= (1+ 7 + 2 \times \frac{1}{2})$ sq cm = (1 + 7 + 1) sq cm

= 9 sq cm

The total area of the word AREA = (9 + 11 + 8 + 9) sq cm

= 37 sq cm

5. Do yourself.

11 Volume

Exercise 11.1

1. Find the volume of the following by counting the cubes (take 1 cube = 1 cu cm) :

(a) Total number of cubes in 1 layer = 4
In 2 layers = 4 × 2 = 8
∴ The volume = 8 cu cm

(b) Total number of cubes = 12
∴ The volume = 12 cu cm

(c) Total number of cubes in 1 layer = 16
In 4 layers = 16 × 4 = 64
∴ The volume = 64 cu cm

(d) Total number of cubes in 1 layer = 6
In 2 layers = 6 × 2 = 12
∴ The volume = 12 cu cm

(e) Total number of cubes = 14
∴ The volume = 14 cu cm

(f) Total number of cubes = 13
∴ The volume = 13 cu cm

(g) Total number of cubes in 1 layer = 9
In 2 layers = 9 × 2 = 18
∴ The volume = 18 cu cm

(h) Total number of cubes in 1 layer = 12
In 2 layers = 12 × 2 = 24
∴ The volume = 24 cu cm

2. Find the volume of the solids given below. Write whether the solid is a cube or cuboid :

(a) In the figure, l = 2 cm, b = 2 cm, h = 2 cm
i.e., $l = b = h$
So, the solid is *cube*.
Volume of the cube = $l \times l \times l$
= (2 × 2 × 2) cu cm
= 8 cu cm

(b) In the figure, l = 7 cm, b = 2 cm, h = 5 cm
So, the solid is cuboid.
Volume of the cuboid = $l \times b \times h$
= (7 × 2 × 5) cu cm
= 70 cu cm

(c) In the figure, l = 16 m, b = 8 m, h = 7 m
So, the solid is cuboid.
Volume of the cuboid = $l \times b \times h$
= (16 × 8 × 7) cu m
= 896 cu m

$$\begin{array}{r} 128 \\ \times 7 \\ \hline 896 \end{array}$$

(d) In the figure, l = 8 m, b = 8 m, h = 8 m
i.e., $l = b = h$
So, the solid is cube.
Volume of the cube = $l \times l \times l$
= (8 × 8 × 8) cu m
= 512 cu m

$$\begin{array}{r} 64 \\ \times 8 \\ \hline 512 \end{array}$$

3. Doyourself :

4. Find the volume of each of the following :

(a) l = 15 mm, b = 25 mm, h = 15 mm
The volume = $l \times b \times h$
= (15 × 25 × 15) cu mm
= 5625 cu mm

$$\begin{array}{r} 25 \\ \times 15 \\ \hline 375 \\ 375 \\ \times 15 \\ \hline 5625 \end{array}$$

(b) l = 17 cm, b = 18 cm, h = 12 cm
The volume = $l \times b \times h$
= (17 × 18 × 12) cu cm
= 3672 cu cm

$$\begin{array}{r} 17 \\ \times 18 \\ \hline 306 \\ 306 \\ \times 12 \\ \hline 3672 \end{array}$$

(c) l = 9 m, b = 5 m, h = 11 m
The volume = $l \times b \times h$
= (9 × 5 × 11) cu m
= 495 cu m

$$\begin{array}{r} 45 \\ \times 11 \\ \hline 495 \end{array}$$

5. Fill in the blanks :

	Length (l)	Breadth (b)	Height (h)	Volume (V)
(a)	6 cm	6 cm	6 cm	216 cu cm
(b)	7 cm	8 cm	4 cm	224 cu cm
(c)	.....	9 cm	3 cm	162 cu cm
(d)	14 mm	11 mm	7 mm	1078 cu cm
(e)	23 mm	16 mm	12 mm	4416 cu mm

6. Match the volume with the edge of the cube :

(a) – (iv), (b) – (v), (c) – (i),
(d) – (iii) (e) – (ii)

7. Volume of 1 brick $= l \times b \times h$
$= (16 \times 5 \times 5)$ cu cm
$= 400$ cu cm
Thus, the volume of the brick is 400 cu cm
Volume of 10 bricks $= 10 \times$ volume of 1 brick
$= (10 \times 400)$ cu cm
$= 4000$ cu cm
Thus, the total volume of the pile is 4000 cu cm.

8. Volume of the swimming pool = length × width × depth

$$\begin{array}{r} 45 \\ \times 13 \\ \hline 585 \end{array}$$

$= (26 \times 15 \times 1.5)$ cu m
$= (\cancel{26} \times 15 \times \frac{15}{\cancel{10}})$ cu m
$= (13 \times 15 \times 3)$ cu m
$= 585$ cu m

So, the volume of the swimming pool is 585 cu m

Volume of water $= (\frac{3}{4}$ of 585) cu m
$= (\frac{3}{4} \times 585)$ cu m
$= \frac{1755}{4}$ cu m
$= 438.75$ cu m

$$\begin{array}{r} 438.75 \\ 4\overline{)1755} \\ -16 \\ \hline 15 \\ -12 \\ \hline 35 \\ -32 \\ \hline 30 \\ -28 \\ \hline 20 \\ -20 \\ \hline 0 \end{array}$$

Thus, the volume of water in the pool is 438.75 cu m.

9. Volume of air in the room = Volume of the room
Volume of the room $= l \times b \times h$
$= (4 \times 3 \times 3.5)$ cu m
$= (4 \times 3 \times \frac{35}{10})$ cu m
$= (2 \times 3 \times 7)$ cu m
$= 42$ cu m
Thus, the volume of air in the room is 42 cu m.

10. Volume of 4 cm cube = S × S × S
$= (4 \times 4 \times 4)$ cu cm
$= 64$ cu cm
Volume of 12 cm cube = S × S × S
$= (12 \times 12 \times 12)$ cu cm
$= 1728$ cu cm

$$\begin{array}{r} 27 \\ 64\overline{)1728} \\ -128 \\ \hline 448 \\ -448 \\ \hline 0 \end{array} \qquad \begin{array}{r} 144 \\ \times 12 \\ \hline 1728 \end{array}$$

The number of 4 cm cubes $= \frac{\text{Volume of 12 cm cube}}{\text{Volume of 4 cm cube}} = \frac{1728}{64}$
$= 27$ cubes
Thus, the number of 4 cm cubes that can be cut from a 12 cm cube is 27.

11. Volume of 1 box = 1.5 cu m
Volume of the room $= l \times b \times h$
$= (12 \times 8 \times 6)$ cu m
$= 576$ cu m

$$\begin{array}{r} 96 \\ \times 6 \\ \hline 576 \end{array}$$

The number of boxes = Volume of room ÷ Volume of box
$= 576 \div \frac{15}{10} = 576 \times \frac{10}{15}$
$= 192 \times 2 = 384$
So, 384 boxes can be packed in the room.

Exercise 11.2

1. Do yourself

2. Do yourself

3. Do yourself

4. Match the net to its shape :
(a) – (iv), (b) – (i),
(c) – (ii), (d) – (iii)

Exercise 11.3

1. Find the volume of solid in cu cm when the volume of water displaced is :
We have, 1 *ml* = 1 cu cm, so
(a) The volume of solid = 150 *ml* = 150 cu cm
(b) The volume of solid = 900 *ml* = 900 cu cm
(c) The volume of solid = 75 *ml* = 75 cu cm
(d) The volume of solid = 250 *ml* = 250 cu cm

2. Find the volume of water displace in milliliter, litre if the volume of the solid is :
(a) The volume of the solid = 15 cu cm
We have, 1 cu cm = 1 *ml*, so
The volume of water displaced by the solid = (1×15) *m*
$= 15$ *ml*
(b) The volume of the solid = 750 cu cm
We have, 1 cu cm = 1 *ml*, so
The volume of water displaced by the solid
$= (1 \times 750)$ *ml*
$= 750$ *ml*
(c) The volume of the solid = 815 cu m
We have, 1 cu **m** = 1000 *l*, so
The volume of water displaced by the solid
$= (1000 \times 815)$ *l*
$= 8,15,000$ *l*
(d) The volume of the solid = 5 cu cm
We have, 1 cu cm = 1 *ml*, so
The volume of water displaced by the solid
$= (1 \times 5)$ *ml*
$= 5$ *ml*

3. Volume of cuboid = $l \times b \times h$, so
Volume of the tank = $(4 \times 3 \times 1)$ cu m = 12 cu m
We have, 1 cu m = 1000 *l*, so
The volume of water required to fill the tank
$= (1000 \times 12)$ *l*
$= 12,000$ *l*
Thus, 12,000 litre water is required to fill the tank.

4. Volume of a cuboid = $l \times b \times h$, so
Volume of the swimming pool $= (25 \times 15 \times 2)$ cu m
$= 750$ cu m
We have, 1 cu m = 1000 *l*, so
Volume of the swimming pool $= (750 \times 1000)$ *l*
$= 7,50,000$ *l*
Thus, the volume of the swimming pool is 7,50,000 litre.

Exercise 12.1

1. Tick (✓) the correct answer :

(a) (iv) 9 m 72 mm
[9072 mm = 9000 mm + 72 mm
= (9000 ÷ 1000) m + 72 mm
= 9 m + 72 mm = 9 m 72 mm]

(b) (iii) 14050 m
[14 km = (14 × 1000) m = 14000 m; 5 dam
= (5 × 10) m
= 50 m; 14000 + 50 = 14050 m]

(c) (ii) 0.0435 hm
[435 cm = (435 ÷ 100) m = 4.35 m = (4.35 ÷ 100) hm
= 0.0435 hm]

2. Fill in the blanks :

(a) 5 m = (5 × 100) cm = 500 cm

(b) 2.2 km = (2.2 × 1000) m = 2200.0 m = 2200 m

(c) 532 cm = 500 cm + 32 cm = (500 ÷ 100) m + 32 cm
= 5 m + 32 cm = 5 m 32 cm

(d) 4 dam = (4 × 10) m = 40 m

(e) 1 cm = (1 × 10) mm = 10 mm

(f) 3486 m = 3000 m + 486 m
= (3000 ÷ 1000) km + 486 m = 3 km 486 m

3. Convert the following into metres :

(a) 6 km 416 m = (6 × 1000) m + 416 m
= 6000 m + 416 m = 6416 m

(b) 23 km 25 m = (23 × 1000) m + 25 m
= 23000 m + 25 m = 23025 m

(c) 80 km 5 m = (80 × 1000) m + 5 m
= 80000 m + 5 m = 80005 m

(d) 1 km 1 m = (1 × 1000) m + 1 m = 1000 m + 1 m
= 1001 m

4. Convert the following into dm :

(a) 8 m 8 dm = (8 × 10) dm + 8 dm = 80 dm + 8 dm
= 88 dm

(b) 25 m 5 dm = (25 × 10) dm + 5 dm = 250 dm + 5 dm
= 255 dm

(c) 103 m 3 dm = (103 × 10) dm + 3 dm
= 1030 dm + 3 dm = 1033 dm

(d) 7 hm 4 dam = (7 × 100) m + (4 × 10) m
= 700 m + 40 m = 740 m
= (740 × 10) dm = 7400 dm

5. Convert the following into cm :

(a) 30 mm = (30 ÷ 10) cm = 3 cm

(b) 285 mm = (285 ÷ 10) cm = 28.5 cm

(c) 63 m 75 cm = (63 × 100) cm + 75 cm
= 6300 cm + 75 cm = 6375 cm

(d) 40 m 50 cm = (40 × 100) cm + 50 cm
= 4000 cm + 50 cm = 4050 cm

6. Convert the following into mm :

(a) 6 cm 6 mm = (6 × 10) mm + 6 mm
= 60 mm + 6 mm = 66 mm

(b) 24 cm 8 mm = (24 × 10) mm + 8 mm
= 240 mm + 8 mm = 248 mm

(c) 30 cm 1 mm = (30 × 10) mm + 1 mm
= 300 mm + 1 mm = 301 mm

(d) 83 cm 5 mm = (83 × 10) mm + 5 mm
= 830 mm + 5 mm = 835 mm

7. Convert the following into metres :

(a) 4 km 6 hm 4 dam 3 m = (4 × 1000) m + (6 × 100) m + (4 × 10) m + 3 m = 4000m + 600 m + 40 m + 3 m
= 4643 m

(b) 12 km 5 hm 4 dam 2 m = (12 × 1000) m + (5 × 100) m + (4 × 10) m + 2 m
= 12000m + 500 m + 40 m + 2 m
= 12542 m

(c) 1 km 1 hm 1 dam 1 m = (1 × 1000) m + (1 × 100) m + (1 × 10) m + 1 m = 1000m + 100 m + 10 m + 1 m
= 1111 m

Exercise 12.2

1. Fill in the blanks :

(a) 325 kg = (325 × 1000) g = 3,25,000 g

(b) 28.7 g = (28.7 × 1000) mg = 28,700 mg

(c) 989 mg = (989 ÷ 10) cg = 98.9 cg

(d) 27 cg = (27 ÷ 100) g = 0.27 g = (0.27 ÷ 10) dag
= 0.027 dag

(e) 625 dg = (625 × 10) cg = 6250 cg

(f) 1171 mg = (1171 ÷ 1000) g = 1.171 g

(g) 349 hg = (349 × 100) g = 34900 g = (34900 × 10) dg
= 3,49,000 dg

(h) 784 dg = (784 ÷ 10) g = 78.4 g = (78.4 ÷ 1000) kg
= 0.0784 kg

(i) 5 mg = (5 ÷ 1000) g = 0.005 g = (0.005 ÷ 1000) kg
= 0.000005 kg

2. Convert the following :

(a) 8 kg 18 g = (8 × 1000) g + 18 g = 8000 g + 18 g
= 8018 g

(b) 543 g 256 mg = (543 × 1000) mg + 256 g = 543000 mg + 256 mg = 5,43,256 mg

(c) 24.125 kg = 24 kg + 0.125 kg = 24 kg + (0.125 ×1000) g = 24 kg + 125 g = 24 kg 125 g

(d) 2.142 dag = 2 dag + 0.142 dag = (2 × 10) g + (0.142 × 10) g
= 20 g + 1.42 g = 20 g + 1 g + 0.42 g = 21 g + (0.42 × 1000) mg = 21 g + 420 mg = 21 g 420 mg

(e) 142.7 dg = (142.7 ×10) cg
= (142.7 × 10 × 10) mg = 14270 mg

(f) 1.483 hg = (1.483 × 100) g = 148.3 g

3. Convert the following :

(a) 3080 g = 3000 g + 80 g = (3000 ÷ 1000) kg + 80 g
= 3 kg + 80 g = 3 kg 80 g

(b) 9335 g = 9300 g + 35 g = (9300 ÷ 1000) hg + 35 g
= 93 hg + 35 g = 93 hg 35 g

(c) 5298 dg = 5290 dg + 8 dg = (5290 ÷ 10) g + 8 dg
= 529 g + 8 dg = 529 g 8 dg

(d) 6.895 hg = (6.895 ÷ 10) kg = 0.6895 kg

(e) 6582 mg = (6582 ÷ 10) cg = 658.2 cg
(f) 6095 dg = 6090 dg + 5 dg = (6090 ÷ 10) g + 5 dg
= 609 g + 5 dg = 609 g 5 dg

4. (b) 5900
[5 kg 900 g = (5 × 1000) g + 900 g
= 5000 g + 900 g = 5900 g]

Exercise 12.3

1. (a) True, (b) False
(c) True, (d) True
(e) True, (f) False

2. (a) 8 l into *ml*
= 8 × 1000 *ml*
= 8000 *ml*

(b) 4 *kl* 25 *l* into *l*
= 4 × 1000 *l* + 25 *l*
= 4025 *l*

(c) 12.53 *hl* into *cl*
= 12.53 × 10,000 *cl*
= 1,25,300 *cl*

(d) 2117 *ml* into l and *ml*
= 2000 *ml* + 117 *ml*
= 2*l* *117 ml*

(e) 143 *dl* into da*l* and *dl*
= *100 dl + 43 dl*
= *(*100 ÷ 100) da*l + 43 dl*
= *I dal* 43 *dl*

(f) 1572.67 *l* into kl
= (15772.6 ÷ 1000) kl
= 1.5726 kl

(g) 817 *ml* into *dal*
= (817 ÷ 10,000) *dal*
= 0.0817 *dal*

(h) 507.3 kl into *l*
= (507.3 × 1000)*l*
= 50,730 *l*

Exercise 12.4

1. Add the following :

(a)

km	m
6	235
+ 3	175
9	410

= 9 km 410 m

(b)

km	m
9	650
16	240
+ 27	450
= 53	340

= 53 km 340 m

(c)

kg	g
32	435
13	278
+ 45	713

= 45 kg 713 g

(d)

19. 508 g
26. 134 g
+ 58. 896 g
104. 538 g

= 104. 538 g

(e)

l	*ml*
12	550
+ 27	060
39	610

= 39 *l* 610 *ml*

(f)

l	*ml*
34	53
+ 00	625
125	145
160	300

= 160*l* 300 *ml*

2. Subtract the following :

(a)

m	cm
28	37
– 16	59
= 11	78

= 11 m 78 cm

(b)

km	m
34	075
– 18	280
15	795

= 15km 795 m

(c)

kg	cm
145	600
– 9	425
= 136	175

= 136 kg 175 k

(d)

kg	cm
64	825
– 43	520
= 21	305

= 21 g 305 mg

(e)

kl	l
147	325
– 84	528
= 62	797

= 62 kg 797 *l*

(f)

l	ml
78	595
– 57	287
= 21	308

= 21 *l* 308 *ml*

3. Multiply the following :

(a)

kg	g
23	245
×	12
= 278	940

= 278 kg 940 g

(b)

l	ml
25	250
×	5
= 126	250

= 126 *l* 250 *ml*

(c)

m	cm
12	54
×	8
= 100	32

= 100 m 32 cm

(d)

35. 734 g
× 9
= 321. 606 kg

321 kg 606 g

(e)

15. 345 *l*
× 12
= 184.14 *l*

(f)

75 32 m
× 14
= 1054 48 m

= 1054.48 *m*

4. Divide the following :

(a) 32 m 36 cm by 4 = 32.36 m ÷ 4

$$\begin{array}{r} 8.09 \\ 3\overline{)\,32.36} \\ -\,32 \\ \hline 036 \\ -\,36 \\ \hline 0 \end{array}$$

= 8.09 m
or 8 m 9 cm

(b) 48 l 640 ml by 8 = 48.640 l ÷ 8

```
      6.080
   3 ) 48.640
     – 48
      064
     – 64
      00
```

= 6.080 l
or 6 l 80 ml

(c) 109 kg 224 g by 12 = 109.224 kg ÷ 12

```
      9.102
  12 ) 109.224
     – 108
       12
      – 12
        024
       – 24
         0
```

= 9.102 kg
= 9 kg 102 g

(d) 992.80 m by 4 = 992.80 m ÷ 4

```
     248.20
  4 ) 992.80
     – 8
      19
     – 16
       32
      – 32
        08
       – 8
        00
```

= 248.20

(e) 950.39 l by 7 = 950.39 l ÷ 7

```
     135.77
  7 ) 950.39
     – 7
      25
     – 21
       40
      35
     – 53
       49
      – 49
        0
```

= 135.77 l

(f) 340.80 kg by 15 = 340.80 kg ÷ 15

```
     135.77
  15 ) 340.80
     – 30
       40
      – 30
        108
       – 105
         30
        – 30
          0
```

= 22.72 kg

5. Solve the following :

(a) Kiran walked in the morning = 3 km
She walked in the evening = 4000 m
= (4000 ÷ 1000) km
= 4 km

So, the total distance she covered = 3 km + 4 km = 7 km
Thus, the distance covered by Kiran is 7 km.

(b)

		km	m
Rohit's father travelled by bus	=	15	875
He travelled by car	=	14	609
He travelled on foot	= +	1	208
Total distance he travelled	=	131	692

Thus, the total distance travelled by Rohit's father is 131 km 692 m

(c)

		kg	g
Quantity of biscuits in tin	=	16	000
Biscuits I gave to my sister	= –	9	050
Biscuits left with me	=	6	950

Thus, 6 kg 950 g of biscuits is left with me.

(d)

		kg	g
Quantity of tomatoes	=	0	250
Quantity of onion	=	1	250
Quantity of potatoes	= +	5	125
Total quantity of vegetables	=	6	625

Therefore, I purchased 6 kg 625 g of vegetables.

(e)

Priya bought milk on Sunday	=	2.850 *l*
She bought milk on Monday	= +	3.025 *l*
Total quantity of milk she bought	=	5.875 *l*

Thus, Priya bought 5.875 l of milk.

(f) Milkman delivers milk to the butter factory
He sells milk to people
Quantity of milk used to make paneer
Total quantity of use milk

	l	*ml*
=	6	250
=	23	725
= +	35	137
=	65	112

	l	*ml*
Quantity of milk the milkman has	= 100	000
Total quantity of used milk	= – 65	112
Quantity of milk left with him	= 34	888

Thus, 34 *l* 888 ml of milk is left with the milkman.

(g) The thickness of a book = 3 cm 5 mm = 3.5 cm
The height of the pile of such 25 books
= Thickness of a book × 25
= 3.5 cm × 25
= 87.5 cm
= 0.875 m
Thus, the height of the pile of 25 such books will be 0.875 m.

(h) The length of the jogging track = 1.5 km
= (1.5 × 1000) m
= 1500 m
Anil has to jog on this track 8 times.
So, the total distance Anil jogged = 1500 m × 8
= 12000 m
Thus, the total distance Anil jogged is 12,000 m

(i) The quantity of shampoo the bottle holds = 1 *l* 140 *ml*
= (1 × 1000) ml + 140 ml
= 1000 ml + 140 ml
= 1140 ml
The quantity of shampoo I use in a week = 95 ml
So, the number of weeks till the shampoo will last = 1140 ÷ 95
= 12

```
   12
95)1140
  -95
  190
 -190
    0
```

Thus, the shampoo will last in 12 weeks.

(j) Total quantity of sugar the 4 persons shared = 44.860 kg
So, the quantity of sugar each of them got = (44.860 ÷ 4) kg
= 11.215 kg

```
11.215
4)44.860
 -4
  04
  -4
  08
  -8
  06
  -4
  20
 -20
   0
```

Thus, each of the persons got 11.215 kg of sugar.

(k) The weight of 5 packets of the biscuits = 6.125 kg
The weight of 1 packet of the biscuits = (6.125 ÷ 5) kg
= 1.225 kg
The weight of 3 packets of the biscuits = (1.225 × 3) kg
= 3.675 kg

```
1.225
5)6.125
 -5
  11
 -10
  12
 -10
  25
 -25
   0
```

So, 3 packets of the biscuits will weigh 3.675 kg.

Revision

1. Convert :

(a) 47.39 km = (47.39 × 10) hm
= 473.9 hm
= 473 hm + 0.9 hm
= 473 hm + (0.9 × 100) m
= 473 hm + 90 m
= 473 hm 90 m

(b) 4.89 kg = 4 kg + 0.89 kg
= 4 kg + (0.89 × 1000) g
= 4 kg + 890 g
= 4 kg 890 g

(c) 4.09 l = (4.09 × 10) dl
= 40.9 dl
= 40 dl + 0.9 dl
= 40 dl + (0.9 × 10) cl
= 40 dl + 9 cl
= 40 dl 9 cl

(d) 312.5 dm = (312.5 ÷ 10) m
= 31.25 m
= (31.25 ÷ 10) dam
= 3.125 dam

(e) 9.73 dg = (9.73 ÷ 10) g
= 0.973 g
= (0.973 ÷ 100) hg
= 0.00973 hg

(f) 3069 ml = 3000 ml + 69 ml
= (3000 ÷ 1000) l + 69 ml
= 3 l + 69 ml
= 3 l 69 ml

2. The taxi covers in 24 days = 8646.24 km
It covers in 1 day = (8646.24 ÷ 24) km
= 360.26 km
It covers in 15 days = (360.26 × 15) km
= 5403.90 km

```
360.26
24)864.24
 -75
  144
 -144
   062
  -48
   144
  -144
     0
```

```
  3 6 0. 26
      × 1 5
  1 8 0 1 3 0
+ 3 6 0 2 6 0
= 5 4 0 3 9 0
```

Thus, the distance covered in 15 days is 5403.9 km.

3.

	kg	g
The weight of potatoes	= 14	725
The weight of tomatoes	= + 9	370
Total weight	= 24	095

Total weight of potatoes, tomatoes and onions

	kg	g
Total weight of potatoes and tomatoes	= 36	050
The weight of the onion	= 24	095
Thus, the weight of onions is	= + 11	955

11 kg 955 g or 11.955 kg.

4. The quantity of milk, the quantity of syrup, total quantity of mixture, the mixture filled in 154 bottles

	l	*ml*
	= 248	347
	= 129	725
	= + 378	070
	= 378.	070 *l*

The mixture filled in 1 bottle = (378.070 ÷ 154) *l*

= 2.455 *l* or 2 *l* 455 *ml*

```
      2.455
154 ) 378.070
    – 308
      700
    – 616
      847
    – 770
      770
    – 770
        0
```

Thus, 2 *l* 455 ml of mixture is filled in each bottle.

13 Time and Temperature

Exercise 13.1

1. Write the time shown in the clock :

(a) 3:35 (b) 10:20

2. Fill in the blanks with a.m. or p.m. :

(a) 2:00 a.m. (b) 8:30 a.m.

(c) 10:00 a.m. (d) 2:00 a.m.

(e) 3:45 p.m.

3. Number of the days between 5th February to 28th February = 24

The number of days between 1st March to 31st March = 31

The number of days between 1st April to 10th April = 10

The total number of days between 5th February and 10th April

= (24 + 31 + 10) days = 65 days

4. The boys goes to bed at 10 p.m.

He sleeps for 8 hours.

The time when he will get up = 10 p.m. + 8 hours = 12:00 midnight + 6 hours = 6:00 a.m.

Thus, the boy will get up at 6:00 a.m.

5. The train left Ranchi at 8:30 p.m. and reached Kolkata at 6:30 a.m.

The time taken to complete the journey to

12:00 midnight to 8:30 p.m.

= 3:30 hours

And 12:00 night to 6:30 a.m. = 6:30 hours

The total time taken to complete the journey

= (3:30 + 6:30) hours

= 10:00 hours

Thus, the time taken to complete the journey is 10 hours.

6. The time shown in the clock = 12:05

The clock is fast by 15 minutes.

The correct time = 12:05 00:15

= 11:50

Thus, the correct time is 11:50.

Exercise 13.2

1. Change into minutes :

(a) 1 hour = 60 minutes

7 hours = (60 × 7) minutes = 420 minutes

(b) 1 hour = 60 minutes

15 hours = (60 × 15) minutes = 900 minutes

(c) 1 hour = 60 minutes

19 hours 10 minutes = 19 hours +10 minutes

= (19 × 60) minutes + 10 minutes

= 1140 minutes + 10 minutes

= 1150 minutes

(d) 1 hour = 60 minutes

6 hours 40 minutes = 6 hours +40 minutes

= (6 × 60) minutes + 40 minutes

= 360 minutes + 40 minutes

= 400 minutes

(e) 1 hour = 60 minutes

11 hours = (11 × 60) minutes

= 660 minutes

(f) 2.8 hours = (2.8 × 60) minutes

= 168.0 minutes

= 168 minutes

2. Change into seconds :

(a) 1 minute = 60 seconds

33 minutes = (33 × 60) seconds

= 1980 seconds

(b) 1 minute = 60 seconds

14 minutes 40 seconds = 14 minutes + 40 seconds

= (14 × 60) seconds + 40seconds

= 840 seconds + 40 seconds

= 880 seconds

(c) 1 minute = 60 seconds

59 minutes = (59 × 60) seconds

= 3540 seconds

(b) 1 minute = 60 seconds

60 minutes 13 seconds = 60 minutes + 13 seconds

= (60 × 60) seconds + 13 seconds

= 3600 seconds + 13 seconds

= 3613 seconds

(e) 1 minute = 60 seconds

5.3 minutes = (5.3 × 60) seconds

= 318 seconds

(f) 1 minute = 60 seconds

9.6 minutes = (9.6 × 60) seconds

= 576 seconds

3. Convert into hours and minutes :

(a) 60) 108 (1 hours
− 60
48 → minutes

Answer : 108 minutes = 1 hour 48 minutes

(b) 60) 840 (14 hours
− 60
240
− 240
0 → minutes

Answer : 840 minutes = 14 hours

(c) 60) 788 (13 → hours
− 60
188
− 188
0 → minutes

Answer : 788 minutes = 13 hours 8 minutes

(d) 60) 615 (10 → hours
− 600
15 → minutes

Answer : 615 minutes = 10 hours 15 minutes

(e) 60) 520 (8 → hours
− 480
40 → minutes

Answer : 520 minutes = 8 hours 40 minutes

(f) 60) 1000 (16 → hours
− 60
400
− 360
40 → minutes

Answer : 1000 minutes = 16 hours 40 minutes

4. Convert into minutes and seconds :

(a) 60) 325 (5 → minutes
− 300
25 → seconds

Answer : 325 seconds = 5 minutes 25 seconds

(b) 60) 381 (6 → minutes
− 360
21 → seconds

Answer : 381 seconds = 6 minutes 21 seconds

(c) 60) 360 (6 → minutes
− 360
0 → seconds

Answer : 360 seconds = 6 minutes

(d) 60) 585 (9 → minutes
− 540
45 → seconds

Answer : 585 seconds = 9 minutes 45 seconds

(e) 60) 416 (6 → minutes
− 360
56 → seconds

Answer : 416 seconds = 6 minutes 56 seconds

(f) 60) 297 (4 → minutes
− 240
57 → seconds

Answer : 297 seconds = 4 minutes 57 seconds

5. The typist can type 80 words in 1 minute = 60 seconds

So, he takes to type a word = $\frac{\cancel{60}^{3}}{\cancel{80}_{4}}$ seconds = $\frac{3}{4}$ seconds

Thus, the typist takes 3/4 seconds to type a word.

6. $2\frac{1}{2}$ hours = 2 hours + $\frac{1}{2}$ hours = (2× 60) minutes + $\frac{1}{2}$

= 60 minutes

= 120 minutes + 30 hours minutes

= 150 minutes

So, both periods are equal.

7. The person walks 3 km in in 1 hours = 60 minutes.

So, time taken to walk 1 km = $\frac{60}{3}$ minutes = 20 minutes.

Thus, the time taken to walk 1 km is 20 minutes.

Exercise 13.3

1. Add :

(a)

	Mins	Secs
	①	
	46	39
+	29	45
	76	24

[(39 + 45) secs = 84 secs = 1 min + 24 secs]

(b)

	Mins	Secs
	①	
	18	35
+	30	40
	49	15

(35 + 40) secs = [75 secs = 1 min + 15 secs]

(c)

	Mins	Secs
	①	
	40	45
+	25	25
	66	10

(45 + 25) secs = (70 secs = 1 min + 10 secs]

(d)

	Hrs	Mins	Secs
	①	①	
	3	40	37
+	6	27	38
	10	08	15

(37 + 38) secs = 75 secs = 1 min + 15 secs
[(1 + 40 + 27) mins = 68 mins = 1 hour + 8 mins

(e)

	Days	Hours
	①	
	8	20
+	6	21
	15	17

[(20 + 21) hours = 41 = 1 day + 17 hours]

(f)

	Years	Months
	①	
	30	5
+	19	8
	50	1

[(5 + 8) months = 13 months = 1 year + 1 month]

(g)

	Days	Hours
	①	
	12	16
+	13	15
	26	07

[(16 + 15) hours = 31 hours = 1 day + 7 hours]

(h)

	Years	Month	Days
	①	①	
	6	5	17
+	2	8	25
	9	2	12

[(17 + 25) days = 42 days = 1 month + 12 days]

[(1 + 5 + 8) months = 14 months = 12 months + 2 months = 1 year + 2 months]

(i)

	Years	Month	Secs
	①		
	12	29	03
+	14	36	40
	27	05	43

[(29 + 36) mins = 65 mins = 1 hour + 5 mins]

2. Subtract :

(a)

	Mins	Secs
	⑥①	⑦⓪
	62	10
–	45	29
	16	41

[We borrow 1 min.
1 × 60 + 10 = 70 secs]
[62 – 1 = 61 mins]

(b)

	Mins	Secs
	⑫	⑩⑧
	13	48
–	5	56
	7	52

[We borrow 1 min.
1 × 60 + 48 = 108 secs]
[13 – 1 = 12 mins]

(c)

Mins	Secs
40	55
– 32	37
08	18

= 8 hours 18 minutes

(d)

	Years	Months
		12 + 5
	④⑧	①⑦
	~~49~~	~~5~~
–	29	10
	19	07

[We borrow 1 year.
1 × 12 + 5 = 17 months]
[49 –1 = 48 years]

(e)

	Months	Days
		20 + 30
	①④	⑤⓪
	~~15~~	~~20~~
–	12	25
	02	25

[We borrow 1 month.
1 × 30 + 20 = 50 days]
[15 – 1 = 14 months]

(f)

	Years	Months
		12 + 4
	③⑤	①⑥
	~~36~~	~~4~~
–	18	10
	17	06

[We borrow 1 year.
1 × 12 + 4 = 16 months]
[36 – 1 = 35 years]

(g)

	Months	Years
	①④	③⓪
	~~15~~	~~00~~
–	12	15
	02	15

[We borrow 1 month = 30 days].
[15 – 1 = 14 months]

(h)

	Years	Months	Days
	⑧	12 ⑪	③⓪
	9	00	00
+	6	07	29
	2	04	01

[We borrow 1 year from 9 years.
9 – 1 = 8 years]
[1 year = 12 months. We borrow 1 month from 12 months.
12 – 1 = 11 months]
[1 month = 30 days]

3. Gautam studies for

Raghav studies for

	Hrs	Mins
		60 + 15
	①	⑦⑤
	~~2~~	~~15~~
–	1	45
	0	30

[We borrow 1 hour.
1 × 60 + 15 = 75 minutes]
[2 – 1 = 1 hour]

Thus Gautam studies for a longer period and by 30 minutes.

4. Do yourself

Exercise 13.4

1. Find the duration of time :

(a) Duration from 7:15 a.m. to 12:00 noon = 4 hours 45 minutes
Duration from 12:00 noon to 1:25 p.m. = 1 hour 25 minutes
Total time = 4 hours 45 minutes + 1 hour 25 minutes = 6 hours 10 minutes

(b) Duration from 8:30 a.m. to 12:00 noon = 3 hours 30 minutes
Duration from 12:00 noon to 7:50 p.m. = 7 hours 50 minutes
Total time = 3 hours 30 minutes + 7 hours 50 minutes = 11 hours 20 minutes

(c) Duration from 4:10 p.m. to 12:00 midnight = 7 hours 50 minutes
Duration from 12:00 midnight to 3:15 a.m. = 3 hours 15 minutes
Total time = 7 hours 50 minutes + 3 hours 15 minutes = 11 hours 5 minutes

(d) Duration from 7:50 p.m. to 12:00 midnight = 4 hours 10 minutes
Duration from 12:00 midnight to 10:30 a.m. = 10 hours 30 minutes
Total time = 4 hours 10 minutes + 10 hours 30 minutes = 14 hours 40 minutes

2. The boy sleeps from 9:30 p.m. to 12:00 midnight = 2 hours 30 minutes
He sleeps from12:00 midnight to 6:30 a.m. = 6 hours 30 minutes
Total time = 2 hours 30 minutes + 6 hours 30 minutes = 9 hours
Thus the boy sleeps for 9 hours

3. Number of days from 7-2-2014 to 28-2-2014 = (28 - 6) days = 22 days
Number of days from 1-3-2014 to 31-12-2014
=[365(31 + 28)] days= [365 - 59] days = 306 days
Number of days from 1-1-2015 to 31-12-2015 = 365 days
Total days = (22 + 306 + 365) days = 693 days
Now, we need (1000 - 693) = 307 days in 2016 to complete the period of depositing the money.
In 2016, January = 31 days

February	=	29 days
March	=	31 days
April	=	30 days
May	=	31 days
June	=	30 days
July	=	31 days
August	=	31 days
September	=	30days
October	=	31 days
Total	=	305 days

Up to 2-11-2016 = 2 days
Total = 307 days
So, the period of 1000 days of deposit of money will be completed on 2-11-2016.
Therefore, the man can withdraw his money on 3-11-2016.

4. Number of days of tour in March = (31 - 2) days
= 29 days
Number of days needed in April = (45 - 29) days
= 16 days
So, Vaishali's tour completed on 16-4-2014
Therefore, Vaishali will return on 17-4-2014.

5. What time will be :

(a) Changing 8:15 a.m. to 24 hour clock time = 08:15 hours
Required time = 8 hours 15 minutes + 6 hours 25 minutes = 14 hours 40 minutes = 14:40 hours
So, the required time will be 14:40 hours or 2:40 p.m.

(b) 95 minutes = 60 minutes + 35 minutes = 1 hour 35 minutes
Required time = 10:30 a.m. + 1 hour 35 minutes
= 12:05 p.m.
So, the required time will be 12:05 p.m.

6. What was the time :

(a) Required time = 12:10 p.m. –1 hour 17 minutes
= 10:53 a.m.
So, the time was 10:53 a.m.

(b) Required time = 12:00 midnight –2 hours 45 minutes
= 9:15 p.m.
So, the time was 9:15 p.m.

7. Required time = 6:15 p.m.–1 hour 40 minutes = 4:35 p.m.
Therefore, the match started at 4:35 p.m.

8. Changing 7:45 p.m. to 24 hour clock time = 19:45 hours
Time required = 19:45 hours –10 hours 15 minutes
= 09:30 hours = 9:30 a.m.
So, the train began its journey at 9:30 a.m.

Exercise 13.5

1. What is the boiling point of water in :

(a) 100 degree celsius or 100°C.
(b) 212 degree Fahrenheit or 210°F.

2. What is the freezing point of water in :

(a) 0 degree Celsius or 0°C.
(b) 32 degree Fahrenheit or 32°F.

3. Find the difference in maximum and minimum temperature for each place :

(a) Delhi : (40.2 – 32) °C = 8.2°C
(b) Kolkata : (36 – 29.8) °C = 6.2°C
(c) Chennai : (43 – 34.7) °C = 8.3°C
(d) Mumbai : (35 – 31.3) °C = 3.7°C

4. The decrease in temperature = 79°C - 43°C
= 36°C

5. Normal body temperature = 98.6°F
Raj's body temperature = 103.5°F
Higher degrees of Raj's temperature = 103.5°F – 98.6°F
= 4.9°F
So, 4.9 degree of Fahrenheit Raj's body temperature is higher than the normal body temperature.

14 Money, Profit and Loss

Exercise 14.1

Solve the following problems :

1. In the first year the amount is = ` 7580.95
In the second year, the amount is = ` 9,635.65
In the third year, the amount is = ` 9635.65 – `152.00
= ` 9483.65

The total amount in three years =

` 7580.95
+ ` 9635.65
+ ` 9483.65
= ` 26700.25

Thus, the total amount in three years is ` 26,700.25.

2. Kriti had ` 160
She spent for :
A ticket = ` 60.50
A drink = ` 12.00
Popcorn = ` 15.50
Total = ` 88.00
The money left with Kriti = ` (160 - 88) = ` 72
Puneet had ` 160
He spent for :
A ticket = ` 60.50
Potato chips = ` 20.50
A bottle of water = ` 6.00
Total = ` 87.00
The money left with Puneet = `(160 – 87) = ` 73
More money left with Puneet = ` (73 – 72) = `1
Thus, Puneet has more money left and by ` 1

3. Sania paid back to the bank = ` 45,000
She took as a loan from the bank = ` 42,000
The extra money she paid = ` (45,000 – 42,000) = ` 3,000

$60\overline{)45000}$ = 3750
Therefore, the extra money Sania paid back to the bank is ` 3,000.
– 36, 90
Sania paid back to the bank in 12 months = ` 45,000
– 84, 60
She paid back to the bank in 1 month = ` (45,000 ÷ 12) ` 3,750
– 60, 00
Therefore, the money Sania paid back to the bank in one month is ` 3,750

4. Some fruits and their prices per kg are given below. Find the cost of the following items:

(a) 2 kg strawberries + 3 kg cherries = ` (2 × 58.25) + ` (3 × 55.35) = ` 116.50 + ` 166.05
= ` 282.55

(b) 4 kg kiwi + 3 kg watermelon = ` (4 × 65.00) + ` (3 × 18.50)
= ` 260.00 + ` 55.50 = ` 315.50

5. The price of 4 dozen oranges = ` 100

The price of 1 dozen oranges = ` $\frac{100}{4}$ = ` 25

The price of 6 dozen eggs = ` 180

The price of 1 dozen eggs = ` $\frac{180}{6}$ = ` 30

The cost of 1 dozen oranges + 1 dozen eggs = ` 25 + ` 30
= ` 55

So, Sonu spends Rs 55.
Sonu gives ` 100 to the shopkeeper.
So, he gets back = ` 100 – ` 55 = ` 45
Thus, the amount Sonu gets back is ` 45.

Exercise 14.2

1. Find out which is better to buy:

(a) The cost of 11 chocolates = ` 55
The cost of 1 chocolate = ` $\frac{55}{11}$ = ` 5
The cost of 24 chocolates = ` 132
The cost of 1 chocolate = ` $\frac{132}{24}$ = Rs 5.50
` 5.00 < Rs 5.50

$24\overline{)132.00}$ = 5.50, – 120, 120, – 120, 00

So, it is better to buy 11 chocolates for Rs 55.

(b) The cost of 2 l milk = ` 40
The cost of 1 l milk = ` $\frac{40}{2}$ = Rs 20
The cost of 5 l milk = ` 97.50
The cost of 1 l milk = ` $\frac{97.50}{5}$ = ` 19.50
` 19.50 < Rs 20.00
So, it is better to buy 5 l milk for ` 97.50.

(c) The cost of 12 pens = ` 120.00
The cost of 1 pen = ` $\frac{120.00}{12}$ = ` 10.00
The cost of 15 pens = ` 136.50
The cost of 1 pen = ` $\frac{136.50}{15}$ = ` 9.10
Rs 9.10 < ` 10.00
So, it is better to buy 15 pens for ` 136.50

(d) The cost of 5 glasses of juice = ` 75
The cost of 1 glass of juice = $\frac{75}{5}$ ` = ` 15
The cost of 15 glasses of juice = ` 240
The cost of 1 glass of juice = ` $\frac{240}{15}$ = ` 16
` 15 < ` 16
So, it is better to buy 5 glasses of juice for ` 75.

(e) The cost of 6 erasers = ` 13.20
The cost of 1 eraser = ` $\frac{13.20}{6}$ = ` 2.20
The cost of 8 erasers = ` 18
The cost of 1 eraser = ` $\frac{18}{8}$ = ` 2.25
` 2.20 < ` 2.25
So, it is better to buy 6 erasers for Rs 13.20.

$8\overline{)18.00}$ = 2.25, – 16, 20, – 16, 40, – 40, 0

2. The cost of 8 kg rice is ` 240. What is the price of :

(a) The cost of 1 kg of rice = ` $\frac{240}{8}$ = ` 30

(b) The cost of $\frac{5}{2}$ kg of rice = ` $\left(\frac{\overset{15}{\cancel{30}} \times 5}{\cancel{2}_{1}}\right)$ = ` 75

(c) The cost of $\frac{25}{3}$ kg of rice = ` $\left(\frac{25}{\cancel{3}_{1}} \times \frac{\overset{10}{\cancel{30}}}{}\right)$ = ` 250

3. The price of 5 l of refined oil = ` 407.50

The price of 1 l of refined oil = ` $\frac{407.50}{5}$ = ` 81.50

The price of 9 l of refined oil = ` (81.50 × 9) = ` 733.50

So, the price of 9 l of refined oil is ` 733.50.

4. The cost of 5 chairs = ` 1,200

The cost of 1 chair = ` $\frac{1200}{5}$ = Rs 240

The cost of 2 chairs = ` (240 × 2) = ` 480

So, the cost of 2 chairs is ` 480.

5. The cost of 8 notebooks = ` 280

The cost of 1 notebook = ` $\frac{280}{8}$ = ` 35

The cost of 9 notebooks = ` (35 × 9) = ` 315

Thus, Vicky paid Rs 315 for the notebooks.

6. The cost of 500 bricks = ` 2,500

The cost of 1 brick = ` $\frac{2500}{500}$ = ` 5

The cost of 15,000 bricks = ` (5 × 15000) = ` 75,000

So, Ritesh paid ` 75,000 for the bricks.

Exercise 14.3

1. Find the S.P. when :

(a) S.P. = C.P. + Profit = ` (800 + 50) = ` 850

(b) S.P. = C.P. – Loss = ` (1,000 - 80) = ` 920

(c) S.P. = C.P. + Profit = ` (615 + 35) = ` 650

(d) S.P. = C.P. – Loss = ` (1800 - 400) = ` 1,400

(e) S.P. = C.P. + Profit = ` (970 + 140) = ` 1,110

(f) S.P. = C.P. – Loss = ` (1100 - 170) = ` 930

2. Find the C.P. when:

(a) C.P. = S.P. – Profit = ` (800 – 90) = ` 710

(b) C.P. = S.P. + Loss = ` (970 + 125) = ` 1,095

(c) C.P. = S.P. + Loss = ` (618 + 120) = ` 738

(d) C.P. = S.P. + Loss = ` (1500 + 200) = ` 1,700

(e) C.P. = S.P. – Profit = ` (1270 – 225) = ` 1,045

(f) C.P. = S.P. + Loss = ` (2100 + 350) = ` 2,450

3. Find the profit or loss in the following:

(a) Here, C.P. < S.P. So, there is a profit.
Profit = S.P. – C.P. = ` (740 – 650) = ` 90

(b) Here, S.P. < C.P. So, there is a loss.
Loss = C.P. – S.P. = ` (1100 – 837) = ` 263

(c) Here, S.P. < C.P. So, there is a loss.
Loss = C.P. – S.P. = ` (370 – 265) = ` 105

(d) Here, S.P. < C.P. So, there is a loss.
Loss = C.P. – S.P. = ` (1900 – 1600) = ` 300

(e) Here, C.P. < S.P. So, there is a profit.
Profit = S.P. – C.P. = ` (500 – 430) = ` 70

(f) Here, C.P. < S.P. So, there is a profit.
Profit = S.P. – C.P. = ` (2875 – 2600) = ` 275

4. Here, the cost of the radio (C.P.) = ` 900, Profit = ` 80

S.P. = C.P. + Profit = ` (900 + 80) = ` 980

So, the selling price of the radio is ` 980.

5. Here, C.P. = ` 370 and S.P. = ` 450

Profit = S.P. – C.P. = ` (450 - 370) = ` 80

Thus, the profit is ` 80.

6. Here, C.P. = ` 125, Profit = ` 25

S.P. = C.P. + Profit = ` (125 + 25) = ` 150

Thus, the selling price is ` 150.

7. Here, C.P. = ` 42,500 and Loss = ` 1,280

S.P. = C.P. – Loss = ` (42,500 – 1280) = ` 41,220

Therefore, the selling price of motorcycle is ` 41,220.

8. Here, S.P. = ` 138 and Profit = ` 27

C.P. = S.P. – Profit = ` (138 – 27) = ` 111

Thus, the cost price is ` 111.

9. Here, S.P. = ` 2,35,700 and Profit = ` 27,350

C.P. = S.P. – Profit = ` (235700 – 27350) = ` 2,08,350

Therefore, Kamal bought the house at ` 2,08,350.

10. Here, S.P. < C.P. So, there is a loss.

Loss = C.P. – S.P. = ` (9850 – 8780) = ` 1,070

Thus, the loss is ` 1,070.

Exercise 14.4

1. Find the profit per cent when :

(a) Profit = S.P. – C.P. = ` (500 – 400) = ` 100

$$\text{Profit\%} = \frac{\text{Profit}}{\text{C.P}} \times 100 = \frac{\cancel{100}^{25}}{\cancel{400}_{4}^{1}} \times \cancel{100} = 25\%$$

(b) Profit = S.P. – C.P. = ` (700 – 600) = ` 100

$$\text{Profit\%} = \frac{\text{Profit}}{\text{C.P}} \times 100 = \frac{\cancel{100}^{25}}{\cancel{600}_{6}^{3}} \times \cancel{100}^{1} = \frac{50}{3}\%$$

or 16.66% or 16.7%

(c) Profit = S.P. – C.P. = ` (850 – 800) = ` 50

$$\text{Profit\%} = \frac{\text{Profit}}{\text{C.P}} \times 100 = \frac{\cancel{50}^{25}}{\cancel{800}_{8}^{4}} \times \cancel{100}^{1} = \frac{25}{4}\%$$

or 6.25%

(d) Profit = S.P. – C.P. = ` (1600 – 1500) = ` 100

$$\text{Profit\%} = \frac{\cancel{100}^{20}}{\cancel{1500}_{15}} \times \cancel{100} = \frac{20}{3}\% = \% \text{ or } 6.666\%$$

or 6.67%

2. Find the loss per cent when :

(a) Loss = C.P. – S.P. = ` (180 – 150) = ` 30

$$\text{Loss\%} = \frac{\text{Loss}}{\text{C.P}} \times 100 = \frac{\cancel{30}^{1}}{\cancel{180}_{6}} \times \cancel{100}^{50} = \frac{50}{3}\%$$

or 16.66% or 16.7%

(b) Loss = C.P. – S.P. = ` (840 – 800) = ` 40

$$\text{Loss\%} = \frac{\text{Loss}}{\text{C.P}} \times 100 = \frac{\cancel{40}^{1}}{\cancel{840}_{21}} \times 100 = \frac{100}{21}\%$$

or 4.76% or 4.8%

(c) Loss = C.P. – S.P. = ` (650 – 500) = ` 150

$$\text{Loss\%} = \frac{\text{Loss}}{\text{C.P}} \times 100 = \frac{\cancel{150}^{3}}{\cancel{650}_{13}} \times 100 = \frac{300}{13}\%$$

or 23.07% or 23.1%

(d) Loss = C.P. – S.P. = ` (900 – 750) = ` 150

$\text{Loss\%} = \frac{\text{Loss}}{\text{C.P}} \times 100 = \frac{\cancel{150}^{1}}{\cancel{900}_{6}} \times \overset{50}{100} = \frac{50}{3}\%$

or 16.7%

3. Find the profit or loss when :

(a) Profit = C.P. × Profit% = ` 300 × 10%

$= ` 300 \times \frac{10}{100} = ` 30$

(b) Profit = C.P. × Profit%

$= ` 800 \times \frac{8}{100} = ` 64$

(c) Loss = C.P. × Loss%

$= ` 600 \times \frac{5}{100} = ` 30$

(d) Loss = C.P. × Loss%

$= ` 1{,}000 \times \frac{10}{100} = ` 100$

4. Profit = S.P. – C.P. = ` (400 – 300) = ` 100

$\text{Profit\%} = \frac{\text{Profit}}{\text{C.P}} \times 100 = \frac{100}{\cancel{300}_{3}} \times \overset{1}{100} = \frac{100}{3}\% = 33.3\%$

5. Profit = S.P. – C.P. = ` (200 – 150) = ` 50

$\text{Profit\%} = \frac{\text{Profit}}{\text{C.P}} \times 100 = \frac{20}{\cancel{200}_{10}} \times 100 = 10\%$

6. Loss = C.P. – S.P. = ` (200 – 180) = ` 20

$\text{Loss\%} = \frac{\text{Loss}}{\text{C.P}} \times 100 = \frac{\cancel{20}^{1}}{\cancel{200}_{10}} \times 100 = 10\%$

7. Profit = C.P. × Profit%

$= ` 110 \times \frac{10}{100} = ` 11$

S.P. = C.P. + Profit = ` (110 + 11) = ` 121

8. Here, C.P. < S.P. So, there is a profit.

Profit = S.P. – C.P. = ` (150 – 130) = ` 20

$\text{Profit\%} = \frac{\text{Profit}}{\text{C.P}} \times 100 = \frac{\cancel{20}^{2}}{\cancel{130}_{13}} \times 100 = 15.3\%$

9. Profit = C.P. × Profit% = ` 800 × $\frac{20}{100}$ = ` 160

S.P. = C.P. + Profit = ` (800 + 160) = ` 960

Therefore, the toy- shop owner sell the toy car at the price of ` 960

10. S.P. of 40 sarees = ` 4,800

S.P. of 1 saree = ` $\frac{4800}{40}$ = ` 120

Profit on 1 saree = ` 20

The cost of 1 saree = S.P. – Profit = R (120 – 20) = ` 100

Revision

1. Tick (✓) the correct option :

(a) Answer : (i) ` 250

[` (160 + 30 × 3) = ` (160 + 90) = ` 250]

(b) Answer : (ii) ` 350

[` (70 × 5) = ` 350]

(c) Answer : (i) ` 1200

[C.P. = S.P. Profit = ` (1500 – 300) = ` 1,200]

(d) Answer : (iv) ` 80

[Cost of 4 kg rice = ` 40

Cost of 1 kg rice = ` $\frac{40}{4}$ = ` 10

Cost of 8 kg rice = ` (10 × 8) = Rs 80]

2.

Cost of apples	= ` 232.60
Cost of grapes	= ` 179.25
Cost of mangoes	= + ` 246.75
Total cost	= ` 658.60
Renuka gave to shopkeeper	= ` 700.00
She bought the fruit for	= ` – 658.60
Balance money	= ` 41.40

Thus, the money Renuka got back is ` 41.40

3. Cost of 1 dozen (= 12) glasses = ` 180

Cost of 1 glass = ` $\frac{180}{12}$ = ` 15

Cost of 1 dozen (= 12) cups = ` 60

Cost of 1 cup = ` $\frac{60}{12}$ = ` 5

Renuka spent on glasses = $\frac{1}{3}$ of ` 270 = $\frac{1}{3}$ × 270 = ` 90

` 15 is the cost of = 1 glass

` 90 is the cost of = $\frac{90}{15}$ glasses = 6 glasses

Remaining money = $\frac{2}{3}$ of ` 270 = $\frac{2}{3}$ × 270 = ` 180

` 5 is the cost of = I cup

` 180 is the cost of = $\frac{180}{5}$ cups = 36 cups

Therefore, Smita bought 6 glasses and 36 cups.

4. Total cost of the 250 books = 250 × ` 25 = ` 6250

So, C.P. = ` 6250

S.P. of 110 books = 110 × ` 30 = ` 3300

S.P. of (250 – 110) = 140 books = 140 × ` 22 = ` 3080

So, total S.P. of 250 books = ` (3300 + 3080) = ` 6380

Here, S.P. > C.P. So, there is a profit

Profit = S.P. – C.P. = ` (6380 – 6250) = ` 130

Thus, the profit on the whole transaction is ` 130

5. C.P. of 20 buckets = ` 1,200

C.P. of 1 bucket = ` = ` 60

Profit on 1 bucket = ` 15.50

S.P. of 1 bucket = C.P. of 1 bucket + Profit on 1 bucket = ` (60.00 + 15.50) = ` 75.50

Thus, the selling price of each bucket is ` 75.50.

6. (a) 1 worker saves in 1 month = ` 30

20 workers saves in 1 month = ` (30 × 20) = ` 600

Thus, the group collects ` 600 each month.

(b) Money collected in 1 month = ` 600

Money collected in 1 year (= 12 month)

= ` (600 × 12) = ` 7200

Money collected in 10 years = ` (7200 × 10)

= ` 72,000

Thus, ` 72,000 will be collected in ten years.

15 Patterns

Exercise 15.1

1. Do yourself

2. Complete the following patterns :

(a) $10 + 15 = 25 = 5 \times 5$

$15 + 21 = 36 = 6 \times 6$

$21 + 28 = 49 = 7 \times 7$

(b) $\frac{3 \times 5}{2} = 6 = 1 + 2 + 3$

$\frac{4 \times 5}{2} = 10 = 1 + 2 + 3 + 4$

$\frac{5 \times 6}{2} = 15 = 1 + 2 + 3 + 4 + 5$

3. Look at the pattern and fill in the blanks :

(a) $1 + 3 + 5 + 7 + 9 = 25$

(b) $1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 = 64$

(c) $1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17 + 19 = 100$

Exercise 15.2

1. Complete the given magic squares :

(a)

10	17	12
15	13	11
14	9	16

(b)

53	48	49
46	50	54
51	52	47

2. Put a tick (✓) on the palindrome :

(a) LEVEL ✓ (b) MALAYALAM ✓

(e) GOD SAW I WAS DOG. ✓

(g) NO LEMONS NO MELON.

3. Change the given numbers to palindromes numbers :

(a) 27 → 27 + 72 = 99

(b) 48 → 48 + 84 = 132

132 + 231= 363

(c) 69 → 69 + 96 = 165

165 + 561 = 726

726 + 637 = 1363

1363 + 3631 = 4994

(d) → 283 + 382 = 665

665 + 566 = 1231

1231 + 1321 = 2552

(e) → 572 + 275 = 847

847 + 748 = 1595

1595 + 5951 = 7546

7546 + 6457 = 14003

14003 + 3041 = 44044

(f) → 57 + 75 = 132

132 + 231 = 363

(g) → 13 + 31 = 44

(h) → 119 + 911 = 1030

1030 + 301= 1331

4. Solve with the help of clues to find the secret number :

Clue 1 : It is less than half of 100.

[Secret number $< \frac{100}{2}$ or 50]

Clue 2 : It is more than 2 tens [Secret number > 20 and Secret numbers < 30]

and less than 3 tens.

Clue 3 : Its tens digit is 5 less than.

The ones digit and the sum of the digits is 9.

[7 – 2 = 5 and 2 + 7 = 9]

Thus, the secret number is 27.

Exercise 15.3

Do yourself

Exercise 15.4

Do yourself

16 Data Handing

Exercise 16.1

1. The data given below shows the numbers of students and the hours spent in doing homework per day :

Draw a tally chart based on the data and answer the questions given below :

Tally chart caps

Hours	Tally Marks (Students)	No. of Students
1.	𝍸	13
2.	𝍸 𝍸 𝍸 𝍸 | | |	23
3.	𝍸	7
4.	| |	2
5.	Total	**45**

(a) The maximum time spent per day in doing homework is 4 hours.

(b) 23 students spent 2 hours per day studying.

(c) There are 45 students in the class.

(d) 13 students spent minimum hours studying.
(e) The minimum hours spent per day for study is 1 hour.

2. Result of marks scored out of a maximum of 100 marks in a mathematics test are given below. Prepare a pictograph for the given data and answer the following questions :

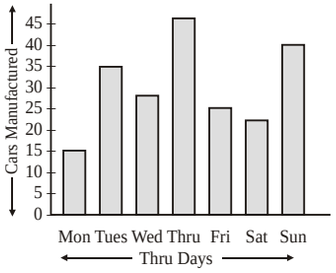
Marks	Tally Marks (Students)	No. of Students
100	○	1
92	○ ○ ○	3
91	○ ○ ○	3
85	○ ○ ○ ○	4
80	○ ○ ○ ○	4
70	○ ○ ○ ○ ○ ○ ○	7
65	○ ○ ○	3
○	is for 1 students Total	25 Students

(a) The highest marks scored in the test is 100.
(b) 7 students secured more then 85.
(c) 25 students gave the test.
(d) Only 1 student scored the maximum marks.

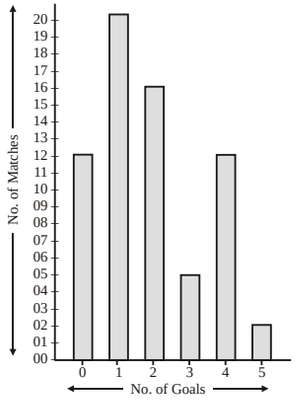
Exercise 16.2

1. Look at the bar graph and answer the following questions :
(a) (i) Mountain A (b) (iv) 9000 M
(c) (iv) Mountain D

2. Construct a bar graph on the following data :



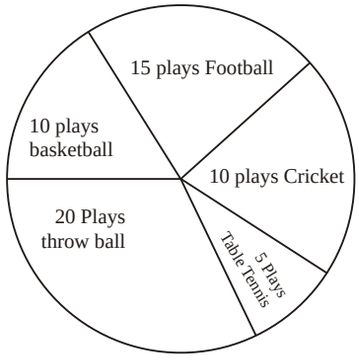
3. Draw a bar graph to represent the number of goals scored by the school football team :
BAR GRAPH



Exercise 16.3

1. In a class of 60 students, 15 play football, 10 play cricket, 5 play table. tennis 20 play throw ball and 10 play basketball. Draw a circle graph for the data given above.

C i c l e s G R A P H



2. The circle graph shows a survey of what 48 children did in their free time. Study the graph and answer the following questions :

(a) $\frac{1}{3}$ of 48 = $\frac{1}{3}\times$ 48 = 16. So, 16 children played with friends.

(b) $\frac{1}{8}$ of 48 = $\frac{1}{8}\times$ 48 = 6. So, 6 children watched T.V.

(c) $\frac{1}{4}$ of 48 = $\frac{1}{4}\times$ 48 = 12. So, 12 children watched movie.

(d) $\frac{1}{6}$ of 48 = $\frac{1}{6}\times$ 48 = 8. So, 8 children read a book.

17 Average

Exercise 17.1

1. Find the average of the following sets :

(a) The sum of given numbers = 23 + 15 + 18 + 20 = 76
Total number of addends = 4
Average of the given number = $\frac{76}{4}$

Thus, the average of the given number is 19.

(b) The sum of the given numbers = 6 + 10 + 12 + 14 + 15 = 57
Total number of addends = 5
Average of the given number $\frac{57}{5}$ = $11\frac{2}{5}$ = 11.4

Thus, the average of the given numbers = 11.4

(c) The sum of the given fractional number = $\frac{1}{3}+\frac{1}{2}+\frac{5}{6}+\frac{1}{9}$

2,	3, 2, 6, 9,
3,	3, 1, 3, 9,
3,	1, 1, 1, 3,
	1, 1, 1, 1,

$= \frac{6+9+15+2}{18}$

$= \frac{32}{18} = \frac{16}{9}$

Total number of addends = 4

Average of the given fractional numbers =

$$\frac{16}{9} \div 4 = \frac{16}{9} \times \frac{1}{4} = \frac{4}{9}$$

Thus, the average of the given fractional numbers $= \frac{4}{9}$

(d) The sum of the given numbers = 60 + 75 + 80 + 90 + 95 = 400

Total number of addends = 5

Average of the given numbers $\frac{400}{5} = 80$

Thus, the average of the given numbers is 80.

(e) The sum of the given numbers = 4.5 + 2.5 + 3.7 + 4.8

= 15.5

Total numbers of addends = 4

Average of the given numbers = $\frac{15.5}{4} = 3.875$

Thus, the average of the given numbers is 3.875.

(f) The sum of given amounts

= ` (5.60 + 12.25 + 6.50 + 30.50)

= ` 54.85

Total numbers of addends = 4

Average of the given amounts = ` $\frac{54.85}{4} = 13.71$

Thus, the average of the given amounts is ` 13.71

2. The sum of first eight natural numbers

= 1 + 2+ 3 + 4 + 5 + 6 + 7 + 8

= 36

Total numbers of addends = 8

Average of first eight natural numbers = $\frac{36}{8} = 4.5$

Thus, the average of first eight natural numbers is 4.5

3. Even numbers between 20 and 30 = 22, 24, 26, 28

The sum of the even numbers between 20 and 30

= 22 + 24 + 26 + 28 = 100

Total numbers of addends = 4

Average of the even numbers = $\frac{100}{4} = 25$

Thus, the average of the even numbers between 20 and 30 is 25.

4. The sum of the ages of the children in the group

= (7 + 11 + 8 + 10 + 14) years

Total numbers of addends = 5

Average age of the children years = $\frac{50}{5}$ = 10 years.

Thus, the average age of the children in the group is 10 years.

5. The sum of the runs scored by the cricketer

= (80 + 55 + 81 + 10 + 11) runs

= 237 runs

Total numbers of addends = 5

Average score of the cricketer = $\frac{237}{5}$ = 47.4 runs

Thus, the average score of the cricketer in 5 casecutive matches is 47.4 runs per match.

6. The sum of the numbers = 240

Total number of addends = 8

Average of the numbers = $\frac{240}{8}$ = 30.

Thus, the average of the 8 numbers is 30.

7. Ths sum of the numbers = 627

Total numbers of addends = 10

Average of the numbers = $\frac{627}{10}$ = 62.7

8. Ths sum of the marks got by Ishaan

= (17 + 25 + 14 + 10 + 24) marks = 90 marks

Total numbers of addends = 5

Average of the marks = $\frac{90}{5}$ marks = 18 marks

Thus, the average of Ishaan's marks is 18.

9. The total number of the students who attended school in first week = 38 + 42 + 39 + 42 + 40 + 37 = 238

Total numbers of addends = 6

Average attendance of the students = $\frac{238}{6}$

= 39.666 or 39.67

Thus, the average attendance of students in that week was 39.67.

10. Given below is a table showing marks obtained by 5 students in 4 subjects in the annual examination.

Answer the following questions :

(a) Prerna gets total marks = (72 + 80 + 65 + 90) marks

= 307 marks

Average marks scored by Prerna = 307/4 marks

= 76.75 marks

Harsh gets total marks = (80 + 85 + 64 + 76) marks

= 305 marks

Average marks scored by Harsh = 305/4 marks

= 76.25 marks

Reeta gets total marks = (78 + 84 + 78 + 49) marks

= 289 marks

Average marks scored by Reeta = 289/4 marks

= 72.25

Pawan gets total marks = (90 + 78 + 72 + 58) marks

= 298 marks

Average marks scored by Pawan = 298/4

= 74.5 marks

Tanya gets total marks = (76 + 91 + 81 + 83) marks

= 331 marks

Average marks scored by Tanya = 331/4

= 82.75 marks

(b) Tanya's performance is the best as her average marks are more than others.

11. Average of three numbers = 10

So, the sum of three numbers = 10 × 3 = 30

The sum of two numbers = 12 + 10 = 22

So the third number = 30 – 22 = 8

12. Average of five numbers = 50

So, the sum of five numbers = 50 × 5 = 250

The sum of four numbers = 53 + 48 + 64 + 44 = 209

So, the fifth number = 250 – 209 = 41

13. Average of 5 numbers = 2

So, the total of these numbers = 5 × 2 = 10

14. Average weight of 3 books = 500 g

So, the total weight of these books = (500 × 3)g = 1500g.