# A BOOK OF MATHEMATICS

**Teacher Manual Class-4**

## Chapter-1 (Revision)

### Exercise Time - 1.1

**1.** (a) 4481 (b) 9065 (c) 3060 (d) 7501

**2.** (a) one thousand two hundred seventy-eight (b) five thousand and eighty-seven (c) seven thousand one hundred eighty-eight (d) eight thousand and two

**3.** (a) 2010 (b) 3158 (c) 1233 (d) 5677

**4.** (b) 1000 + 400 + 50 + 2
(b) 2000 + 0 + 30 + 8
(c) 2000 + 700 + 60 + 7
(d) 6000 + 500 + 40 + 6

**5.** (a) 5 hundreds (b) 7 ones
(c) 8 thousands (d) 6 tens

**6.** (a) < (b) = (c) < (d) <

**7.** (a) 8752 (b) 8320 (c) 7521 (d) 6421

**8.** (a) 195, 986, 1740, 5640
(b) 4185, 4256, 4532, 4846

**9.** (a) 7695, 7659, 7596, 7569
(b) 2025, 1756, 895, 507

**10.** (a) 7848 (b) 7890 (c) 13612
(d) 17993

**11.** (a) 1908 (b) 5259 (c) 2381
(d) 1905

**12.** (a) 13256 (b) 12670 (c) 39012
(d) 6874

**13.** (a) 2862 (b) 1132 (c) 109 (d) 1145

**14.** (a) > (b) < (c) >

**15.** (a) $\frac{23}{18}$ (b) $\frac{8}{24}$ (c) $\frac{9}{5}$

**16.** (a) $\frac{5}{14}$ From $\frac{8}{14}$

$= \frac{8}{14} - \frac{5}{14} = \frac{8-5}{14} = \frac{3}{14}$

(b) $\frac{4}{25}$ From $\frac{6}{25}$

$= \frac{6}{25} - \frac{4}{25} = \frac{6-4}{25} = \frac{2}{25}$

(c) $\frac{7}{18}$ From $\frac{17}{18}$

$= \frac{17}{18} - \frac{7}{18} = \frac{17-7}{18} = \frac{10}{18} = \frac{5}{9}$

**17.** (a) 9040 p ₹ 1 = 100 p
9040 p = 9000 p + 40 +
= ₹ 90 + 40 p
= 90 rupees and 40 paise

(b) 1618 p ₹ 1 = 100 p
1618 p = 1000 p + 6 p + 18 p
= ₹ 10 + ₹ 6 + 18 p
= ₹ 16 + 18 p
= 16 rupees and 18 paise

(c) 506 p ₹ 1 = 100 p
506 p = 500 p + 6 p
= ₹ 5 + 6 p
= 5 rupees and 6 paise

**18.** (a) 1309 cm = 1300 cm + 9 cm
= 13 m 9 cm

(b) 5454 cm = 5400 cm + 54 cm
= 54 m 54 cm

(c) 444 cm = 400 cm + 44 cm
= 4 m 44 cm

**19.** (a) 6 kg = 6 × 1000 g = 6000 g

(b) 6 kg 250 g = 6 × 1000 g + 250g
= 6000 g +250 = 6250 g

(c) 8 kg 50 g = 8 × 1000 g + 50 g
= 800 g 950 g
= 8050 g

**20.** (a) 2467 ml = 2000 ml + 467 ml
$\frac{2000}{1000} l$ + 467 ml = 2 *l* 467 ml

(b) 3015 ml = 3000 ml + 15 ml

$\frac{3000}{1000} l = 13 \text{ ml} = 3\ l\ 15 \text{ ml}$

(c) 4000 ml = 4000 ml

$\frac{4000}{1000} l = 4l$

**21.** Monthly income of Ramesh = ₹ 4540

Monthly income of Nikhil
= ₹ 4540.60 – ₹ 550.25
= 3990.35

**22.** Akansha has = ₹ 60

Akansha bought a boll = ₹ 6.20
Akansh bought a doll = ₹ 16.40
bought tea packet = ₹ 17.10
Total amount she expand
= ₹ (6.20+16.40.17.10)
= ₹ 39.70
Amount left with Akansha
= ₹ 60 – 39.70
= ₹ 20.30

**23.** Total length of a cloth = 4 m 25 cm
Cloth cut by repel = 2 m 15 cm
Cloth was left = 4 m 25 cm –
2 m 15 cm = 2 m 10 cm

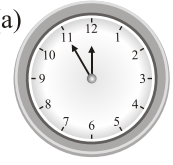
**24.** Place values of 7 in 7897 is 7000 and 7
Difference is the place value = 7000 – 7
= 6993

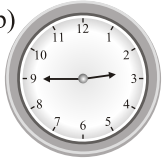
**25.** (a) 9 months = 9 × 30 = 270 days

(b) 10 weeks = 10 × 7 = 70 days

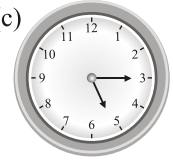
(c) 6 months 2 weeks
= 6 × 30 + 2 × 7
= 180 + 14 = 194 days

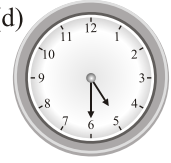
**26.** (a) (b)





(c) (d)





**27.** Do it yourself

**28.** Perimeter of triangle = sum of all sides
= 9 cm + 8 cm + 7 cm
= 24 cm

## Chapter-2 (Large Numbers)

### Exercise Time 2.1

**1.** (a) 69537 → 69,537
(b) 248715 → 2,48,715
(c) 685423 → 6,85,423
(d) 200538 → 2,00,538
(e) 50473825 → 5,04,73,825
(f) 47545→ 47,545
(g) 2455724 → 24,55,724
(h) 1503863 → 15,03,863
(i) 335280 → 3,35,280
(j) 4864524 → 48,64,524
(k) 236185 → 2,36,185
(l) 4580275 → 45,80,275

**2.** (a) 235685 → 235,685
(b) 156456 → 156,456
(c) 280076 → 280,076
(d) 638208 → 638,208
(e) 2385371 → 238,5371
(f) 1901519 → 190,1519
(g) 687542561 → 687,542,561
(h) 56591538 → 565,915,38
(i) 35680526 → 356,805,26
(j) 725249 → 725,249
(k) 210346 → 210,346
(l) 3508364 → 350,836,4

**3.** (a) 46,08,147 →
Forty-six lakh eight thousand one hundred forty-seven

(b) 56,08,30,245 →
Fifty-six crores eight lakh thirty thousand two hundred forty five

(c) 2,14,225 →
Two lakh fourteen thousand two hundred twenty-five

(d) 2,09,23,215 →
Two crores nine lakh twenty-three thousand two hundred fifteen

(e) 8,16,23,834 →
Eight crores sixteen lakh twenty-three thousand eight hundred thirty-four

(f) 9,36,70,520 →
Nine crores thirty six lakh seventy thousand five hundred twenty

(g) 8,37,22,208 →
Eight crores thirty-seven lakh twenty-two thousand two hundred eight

(h) 7,55,265 →
Seven lakh fifty-five thousand two hundred sixty-five

**4.** (a) 14005256 →
Fourteen million five thousand two hundred fifty-six

(b) 3265408 →
Thirty-two million sixty-five thousand four hundred eight

(c) 88014247 →
Eighty-eight million fourteen thousand two hundred forty- seven

(d) 623504301 →
Six hundred twenty-three million five hundred four thousand three hundred one

(e) 58306864 →
Fifty-eight million three hundred six thousand eight hundred sixty four

(f) 831290441 →
Eight hundred thirty-one million two hundred ninety thousand four hundred fourty- one

(g) 93267751 →
Ninety three million two hundred sixty seven thousand seven hundred fifty-one

(h) 256508503 →
Two hundred fifty six million five hundred eight thousand five hundred three

**5.** (a) 40,00,526 (b) 5,24,50,004
(c) 8,702,092 (d) 2,301,043

## Exercise Time - 2.2

**1.** (a) 6 Lakhs = 6 × 1,00,000
= 6,00,000

| TL | L | TTh | Th | H | T | O |
|---|---|---|---|---|---|---|
| 2 | 6 | 8 | 9 | 4 | 0 | 1 |

(b) 6 Crore = 6 × 1,00,00,000
= 6,00,00,000

| C | TL | L | TTh | Th | H | T | O |
|---|---|---|---|---|---|---|---|
| 6 | 4 | 8 | 5 | 7 | 0 | 2 | 1 |

(c) 6 Ten thousand = 6 × 10,00,0
= 60,000

| TC | C | TL | L | TTh | Th | H | T | O |
|---|---|---|---|---|---|---|---|---|
| 2 | 4 | 8 | 9 | 6 | 3 | 5 | 7 | 2 |

(d) 6 Ten thousand = 6 × 10,000
= 60,000

| TL | L | TTh | Th | H | T | O |
|---|---|---|---|---|---|---|
| 2 | 8 | 6 | 7 | 5 | 3 | 4 |

(e) 6 Ten thousands = 6 × 10,000
= 60,000

| TC | C | TL | L | TTh | Th | H | T | O |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 4 | 3 | 6 | 5 | 0 | 7 | 8 |

(f) 6 Ten thousands = 6 × 10,000
= 60,000

| C | TL | L | TTh | Th | H | T | O |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 6 | 5 | 7 | 8 | 9 |

**2.** (a) 4 Thousand Millions
= 4 × 1000000000 = 4000000000

| THM | HM | TM | M | Hth | TTh | Th | T | O |
|---|---|---|---|---|---|---|---|---|
| 4 | 1 | 2 | 7 | 3 | 5 | 6 | 8 | 9 |

(b) 4 Ten Millions
= 4 × 1000000 = 40000000

| HM | TM | M | HTh | TTh | Th | T | O |
|---|---|---|---|---|---|---|---|
| 2 | 4 | 3 | 5 | 6 | 0 | 1 | 3 |

(c) 4 Hundred Millions
= 4 × 100000000 = 4,00,000000

| HM | TM | M | HTh | TTh | Th | T | O |
|---|---|---|---|---|---|---|---|
| 4 | 8 | 9 | 6 | 3 | 5 | 7 | 2 |

(d) 4 Millions
= 4 × 1000000 = 4,00,0000

| THM | HM | TM | M | Hth | TTh | Th | T | O |
|---|---|---|---|---|---|---|---|---|
| 8 | 2 | 8 | 4 | 5 | 6 | 9 | 0 | 1 |

(e) 4 Ten thousands
= 4 × 10,000 = 40,000

| THM | HM | TM | M | Hth | TTh | Th | T | O |
|---|---|---|---|---|---|---|---|---|
| 3 | 7 | 2 | 1 | 5 | 4 | 0 | 1 | 8 |

(f) 4 Hundred Thousand
= 4 × 100000 = 400000

| THM | HM | TM | M | Hth | TTh | Th | T | O |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 5 | 3 | 4 | 6 | 8 | 9 | 5 |

**3.** (a) < (b) < (c) < (d) > (e) < (f) < (g) < (h) > (i) < (j) > (k) < (l) <

## Exercise Time - 2.3

**1.** (a) 20815 = 20000 + 800 + 10 + 5
(b) 38853 = 30000 + 8000 + 800 + 50 + 3
(c) 465765 = 400000 + 60000 + 5000 + 700 + 60 + 5
(d) 556351 = 500000 + 50000 + 6000 + 300 + 50 + 2
(e) 6518256
= 6000000 + 500000 + 10000 + 8000 + 2000 + 50 + 6
(f) 75173281 = 70000000 + 5000000 + 100000 + 70000 + 3000 + 200 + 80 + 1
(g) 865774 = 800000 + 60000 + 5000 + 700 + 70 + 4
(h) 95852 = 90000 + 50000 + 800 + 50 + 2

**2.** (a) 7000 + 800 + 90 + 2 = 7892
(b) 50000 + 6000 + 800 + 90 + 5 = 56895
(c) 600000 + 40000 + 1000 + 0 + 60 + 8 = 647068
(d) 5000000 + 400000 + 0 + 3000 + 500 + 20 + 6 = 5403526

**3.** (a) 670 – 1 = 669 (b) 6705 – 1 = 6704
(c) 886644 – 1 = 886643
(d) 5624 – 1 = 5623
(e) 487445015 – 1 = 487445014
(f) 26976 – 1 = 26975 (g) 8026 – 1 = 8025 (h) 52614 – 1 = 52613

**4.** (a) 5749 + 1 = 5750
(b) 6700 + 1 = 6701
(c) 8525 + 1 = 8526
(d) 8672 + 1 = 8673
(e) 1785095 + 1 = 1785096
(f) 7098 + 1 = 7099
(g) 3095495 + 1 = 3095496
(h) 876256 + 1 = 876257

**5.** (a) Successor of greatest 4-digit number = 9999 + 1 = 10000
(b) The number one more than 1 crore = 10000000 + 1 = 10000001
(c) Greatest five digit number by using the given numbers = 87620
(d) Predecessor of greatest 3-digit number = 999 – 1 = 998

**6.** (a) Descending Order = 98000, 85400, 32218, 23005, 7500, 2300
(b) Descending Order = 38018, 36820, 32516, 27285, 21549, 15007
(c) Descending Order = 3563250, 3536391, 3536294, 5235, 353
(d) Descending Order = 92318, 85480, 19547, 17521, 12000, 8700

**7.** (a) Ascending Order = 809, 5015, 9145, 18207, 29017, 32008
Remaining part do it yourself

**8.**

| Digits | Smallest Numbers | Greatest Number |
|---|---|---|
| (a) 6,5,0,2,3 | 20356 | 65320 |
| (b) 6,7,0,3,8 | 30678 | 87630 |

**9.** (a) 99999 + 1 = 100000

∴ Successor of the greatest 5 digit number is 100000

(b) Predecessor

(c) 999 – 1 = 998

∴ 998 is the predecessor of greatest 3-digit number.

**10.** (a) 28544 = 28540

(b) 86572 = 86570

(c) 34862 = 34860

(d) 152836 = 152840

(e) 158936 = 158940

(f) 14359 = 14360

(g) 457289 = 457290

(h) 372511 = 372510

**11.** (a) 78964 = 79000

(b) 86259 = 86300

Remaining part do it yourself.

**12.** (a) 60535 = 60,000

(b) 130742 = 131000

(c) 678937 = 679000

(d) 13439 = 13000

(e) 588263 = 588000

(f) 475462 = 475000

(g) 635438 = 635000

(h) 778888 = 779000

**13.** (a) nearest 10 = 42400

(b) nearest 100 = 42400

(c) nearest 1000 = 42000

**14.** (a) nearest 10 = 540500

(b) nearest 100 = 540500

(c) nearest 1000 = 541000

### Exercise Time - 2.4

**1.** (a) VIII(b) XVI (c) XXV (d) XLVI (e) CXXV

**2.** (a) 62 (b) 128 (c) 369 (d) 73 (e) 39

**3.** (a) > (b) > (c) > (d) <

**4.** (a) IX = VIII

(b) XC = LXXIX

(c) LXX = LXIX

(d) XXIX = XXVIII

(e) XXXV = XXXIV

(f) LXXVI = LXXV

**g, h, i and j** Do it yourself.

**5.** (a) XL = XLI (b) IX = XX

(c) XC = XCI

(d) XXIX = XXX

(e) XXXV = XXXVI

(f) XII = XIII

(g) XXX = XXXI

(h) LXI = LXII

(i) LX = LXI

**6.** (a) Ascending order

= II, IX, XV, XIX, XXX

(b) Ascending order

= III, V, XI, XXI, L

(c) Ascending order

= V, XIII, XIV, XX, LV

(d) Ascending order

= VII, X, XV, XVI, XXII

**7.** (a) Descending order

= LXII, XXIV, XX, XVI, XI

(b) Descending order

CLV, LV, XXXIV, XVII, X

(c) Descending order

XCL, XXII, XX, IX, VI

(d) Descending order

XCI, LXIV, XX, XIV

**8.** (b), (d), (e), (f), (h), (j)

## Chapter-3 (Addition of Numbers)

### Exercise Time - 3.1

**1.** (a)
$$\begin{array}{r} 354758 \\ 465642 \\ +254389 \\ \hline 1074689 \end{array}$$

(b)
$$\begin{array}{r} 285758 \\ 26365 \\ +74529 \\ \hline 386652 \end{array}$$

(c)
$$\begin{array}{r} 554580 \\ 67457 \\ +54321 \\ \hline 676358 \end{array}$$

(d)
$$\begin{array}{r} 2548789 \\ 517636 \\ +85325 \\ \hline 3151750 \end{array}$$

**Do it yourself.**

**(Question no. e, f, g, h and i)**

**2.** (a) 3 8 9 4 7 6 (b) 3 6 5 6 7 5
5 6 3 6 3 5 6 1 5 3
+ 1 4 1 7 3 + 3 6 5 4
4 6 0 0 1 2 4 2 5 4 8 2

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

**3.** (a) 8 5 5 6 3
+ 1 3 2 2 3
9 8 7 8 6

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

## Exercise Time - 3.2

**1.** Arman bought a plot = ₹ 34900
Construction cost = ₹ 163487
So, he invested the total amount on built a flat

₹ 1 6 3 4 8 7
+ ₹ 3 4 9 0 0
₹ 1 9 8 3 8 7

**2.** Number of person who visited the fair on

| | |
|---|---|
| Friday | 4 2 5 3 6 |
| Saturday | 3 4 1 3 5 |
| Sunday | + 5 8 2 6 3 |
| Total no. of person | 1 3 4 9 3 4 |

**3.** Number of girls in university
= 36500
Number of boys in university = 3700 more than the number of girls
So, Number of boys
= 36500 + 3700
= 40200
Hence, Total number of students
= 36500 + 40200 = **76700**

**4.** In a village,
Number of men = 15286
Number of women = 18639
So, Total population of village
= 15286 + 18639
= **33925**

**5.** Number of wheat bags in godown
= 56400
Number of rice bags in godown
= 39655
5 6 4 0 0
+ 3 9 6 5 5
9 6 0 5 5

So, Total number of bags in godown = 96055

**6.** (a) Smallest 5-digit number
Largest 4-digit number
1 0 0 0 0
+ 9 9 9 9
1 9 9 9 9

(b) Largest 6-digit number
Smallest 5-digit number
9 9 9 9 9 9
+ 1 0 0 0 0
1 0 0 9 9 9 9

**7.** At a cricket match,
No of spectators in first row = 168654
Number of spectators in second row = 29544
Number of spectators in third row = 213433

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

In stadium the total strength of spectators in first three row

**8.** Number of votes three candidates got = 57436

Number of votes poled together = 53138

$$\begin{array}{r} 57345 \\ 57436 \\ +\,53138 \\ \hline 167919 \end{array}$$

**9.** Number of science books in a library = 43321

Maths books in the library = 24764

General knowledge books library = 6143

$$\begin{array}{r} 43321 \\ 24764 \\ +\,6143 \\ \hline 74228 \end{array}$$

Total numbers of books in library

**10.** Number of females in a multinational company = 154321

Number of males in a multinational company = 765432

$$\begin{array}{r} 144322 \\ 765432 \\ +\,619753 \\ \hline \end{array}$$

Total number of person in a Multinational company = 619753

## Chapter-4 (Subtraction)

### Exercise Time - 4.1

**1.** (a)
$$\begin{array}{r} \boxed{1}\boxed{11} \\ 68\,3\,\cancel{2}\,\cancel{1} \\ -\,57214 \\ \hline \boxed{1}\,1\,1\,0\,7 \end{array}$$

(b)
$$\begin{array}{r} \boxed{5}\boxed{14}\boxed{11}\boxed{12}\boxed{14} \\ \cancel{6}\,\cancel{5}\,\cancel{2}\,\cancel{3}\,\cancel{4} \\ -\,3\,6\,3\,4\,6 \\ \hline \boxed{2}\,8\,8\,8\,8 \end{array}$$

(c)
$$\begin{array}{r} \boxed{8}\boxed{14}\boxed{7}\boxed{14}\boxed{12} \\ \cancel{9}\,\cancel{4}\,\cancel{8}\,\cancel{5}\,\cancel{2}\,4 \\ -\,8\,6\,7\,7\,3\,2 \\ \hline \boxed{0}\,8\,0\,7\,9\,2 \end{array}$$

(d)
$$\begin{array}{r} \boxed{8}\boxed{14} \\ \cancel{9}\,\cancel{4}\,5\,2\,6 \\ -\,5\,6\,5\,2\,3 \\ \hline \boxed{3}\,8\,0\,0\,3 \end{array}$$

**2.** (a)
$$\begin{array}{r} 5\,4\,5\,\boxed{4}\,5\,4 \\ -\,1\,\boxed{6}\,7\,8\,9\,5 \\ \hline \boxed{3}\,7\,\boxed{7}\,5\,\boxed{5}\,1\,9 \end{array}$$

(b)
$$\begin{array}{r} 6\,\boxed{6}\boxed{6}\,5\,5\,5 \\ -\,2\,7\,7\,\boxed{8}\boxed{9}\,6 \\ \hline 3\,8\,8\,6\,5\,9 \end{array}$$

(c)
$$\begin{array}{r} 8\,\boxed{8}\boxed{4}\,0\,3\,1 \\ -\,4\,6\,1\,\boxed{4}\boxed{1}\,0 \\ \hline 4\,2\,2\,6\,2\,1 \end{array}$$

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

### Exercise Time - 4.2

**1.**
$$\begin{array}{r} 37256 \\ -\,5645 \\ \hline 31611 \end{array}$$

**2.** Difference of two numbers = 24536

Greater number = 72348

So, 72348
−24536
47812

Smaller number

**3.** Largest 6-digit number
Smallest 5-digit number
999999
−10000
989999

**4.** Sandhy took ₹ to the market
=₹6000
She bought jewellery = ₹4536
Money left = = ₹1464
₹ 6000
− ₹ 4536
₹ 1464

**5.** A man deposited money in the bank = 88575
He withdraw money = 18270
Money remained in his account = 70305
88575
−18270
70305

**6.** Number of oranges and mangoes in godown = 200000
Number of oranges in godown = 59576
Number of mangoes in godown = 140424
200000
−59576
140424

**7.** In shopkeeper stock sugar = 75000 kg
He sold sugar = 54536 kg
Sugar left = 20464 kg
75000 kg
−54536 kg
20464 kg

**8.** The sum of two number = 454874
Smaller number = 86295
Other number = 368579
454874
−86295
368579

**9.** (a) True (b) False (c) True (d) False

## Chapter-5 (Multiplication)

### Exercise Time - 5.1

**1.** (a) 304 × 6 = 1824
(b) 508 × 7 = 3556
(c) 365 × 5 = 1825
(d) 950 × 7 = 6650
(e) 245 × 8 = 1960
(f) 536 × 3 = 1608
(g) 465 × 2 = 930
(h) 995 × 1 = 995

**2.** (a) 117 × 14 = 468 + 1170 = 1638
(b) 286 × 24 = 1144 + 5720 = 6864
(c) 408 × 14 = 1632 + 4080 = 5712
(d) 524 × 78 = 4192 + 36680 = 40872

(e) 467 × 15 = 2335 + 4670 = 7005

(f) 540 × 60 = 000 + 3240× = 32400

(g) 857 × 64 = 3428 + 5142× = 54848

(h) 395 × 43 = 1185 + 1580× = 19685

**3.** (a) 80 (b) 9 (c) 0 (d) 7 (e) 8 (f) 6

**4.** (a) 3000 × 13 = 9000 + 300× = 12000

(b) 600000 × 12 = 1200000 + 600000 = 7200000

(c) 300 × 38 = 2400 + 900× = 11400

(d) 105 × 800 = 000 + 000× + 840×× = 84000

(e) 300000 × 536 = 1800000 + 900000× + 1500000×× = 160800000

(f) 1000 × 539 = 9000 + 3000× + 5000×× = 539000

(g) 6000 × 560 = 0000 + 36000× + 30000×× = 3360000

(h) 5000 × 807 = 35000 + 0000× + 40000×× = 4035000

**5.** (a) 74 × 5 = 370 + 740× = 8510

(b) 33 × 6 = 198 + 1584 = 3590

(c) 73 × 6 = 438 + 2628 + 1752× + 876×× = 107748

(d) 526 × 3 = 1578 + 0000 + 6212× = 62120

## Exercise Time - 5.2

**1.** (a) 678 × 519 = 6102 + 678× + 3390×× = 351882

(b) 5239 × 295 = 26195 + 47151× + 10478×× = 1545505

(c) 2493 × 143 = 7479 + 9972× + 2493×× = 356499

Remaining parts do it yourself.

**2.** (a)
$$\begin{array}{r} 12857 \\ \times\ 937 \\ \hline 89999 \\ 38571\times \\ 115713\times\times \\ \hline \boxed{12047009} \end{array}$$

(b)
$$\begin{array}{r} 3796 \\ \times\ 239 \\ \hline 34164 \\ 11388\times \\ 7592\times\times \\ \hline \boxed{907244} \end{array}$$

(c)
$$\begin{array}{r} 8585 \\ \times\ 435 \\ \hline 42925 \\ 25755\times \\ 34340\times\times \\ \hline \boxed{3734475} \end{array}$$

Remaining parts do it yourself.

## Exercise Time - 5.3

**1.** Rakulpreet saves ₹ in one week = 356
So, she save in 54 week

$$\begin{array}{r} 356 \\ \times\ 54 \\ \hline 1424 \\ 1780\times \\ \hline \boxed{19224} \end{array}$$

**2.** One days = 24 hours
In September = 30 days
So,
$$\begin{array}{r} 30 \\ \times\ 24 \\ \hline 120 \\ 60\times \\ \hline \boxed{720} \end{array}$$

Hours in the month of September.

**3.**
$$\begin{array}{r} 616 \\ \times\ 10 \\ \hline 000 \\ 616\times \\ \hline \boxed{6160} \end{array}$$
money does he has

**4.** In a bottle there are = 280 tablets
So, In such 36 bottles tablets are

$$\begin{array}{r} 280 \\ \times\ 36 \\ \hline 1680 \\ 840\times \\ \hline \boxed{10080} \end{array}$$

**5.** Bricks were loaded on truck = 2680
So, in such 278 trucks bricks were loaded

$$\begin{array}{r} 2680 \\ \times\ 278 \\ \hline 21440 \\ 18760\times \\ 5360\times\times \\ \hline \boxed{745040} \end{array}$$

**6.**
$$\begin{array}{r} 375 \\ \times\ 360 \\ \hline 000 \\ 2250\times \\ 1125\times\times \\ \hline \boxed{₹135000} \end{array}$$

total money collected.

**7.** Cost of one shirts = ₹ 370
So, In such 47 shirts cost =

$$\begin{array}{r} 370 \\ \times\ 47 \\ \hline 2590 \\ 1480\times \\ \hline \boxed{₹17390} \end{array}$$

**8.** Cost a table = ₹ 576
So, cost of 672 table =

$$\begin{array}{r} 576 \\ \times 672 \\ \hline 1152 \\ 4032\times \\ 3456\times\times \\ \hline 387072 \end{array}$$

**9.** On a day brought curtous of oranges
Carton oranges hold
Total number of oranges on a day brought to the market.

$$\begin{array}{r} 5775 \\ \times 244 \\ \hline 23100 \\ 23100\times \\ 11550\times\times \\ \hline 1409100 \end{array}$$

**10.** A factory produce cylinder gas = 4575
In sells one gas cylinder = ₹ 375
So,

$$\begin{array}{r} 4575 \\ \times 375 \\ \hline 22875 \\ 32025\times \\ 13725\times\times \\ \hline 1715625 \end{array}$$

Money will collected by selling all the cylinders.

**11.** No. of passenger a train carries = 975
So, In such 275 train passenger can travel =

$$\begin{array}{r} 975 \\ \times 275 \\ \hline 4875 \\ 6825\times \\ 1950\times\times \\ \hline 268125 \end{array}$$

**12.** Distance cover in an hour by superfast train = 235 km
So, In two days he cover
(One day = 24 hrs.
∵ Two days = $24 \times 2 = 48$ hrs.)

$$\begin{array}{r} 235 \\ \times 48 \\ \hline 1880 \\ 940\times \\ \hline 11280 \end{array}$$

**13.** (a) zero(b) 2376 (c) 14 (d) 367476

## Chapter-6 (Division)

### Exercise Time - 6.1

**1.** (a) $72 \div 9$

$$\begin{array}{r|l} 9 & 72 \\ -72 & \hline 0 & 8 \end{array}$$

(b) $99 \div 3$

$$\begin{array}{r|l} 3 & 99 \\ -9\downarrow & \hline 9 & 33 \\ -9 & \\ \hline 0 & \end{array}$$

(c) $54 \div 6$

$$\begin{array}{r|l} 6 & 54 \\ -54 & \hline 0 & 9 \end{array}$$

(d) $284 \div 4$

$$\begin{array}{r|l} 4 & 284 \\ -28\downarrow & \hline 4 & 71 \\ -4 & \\ \hline 0 & \end{array}$$

(e) $594 \div 5$

$$\begin{array}{r|l} 5 & 594 \\ -5\downarrow & \hline 9 & 123 \\ -5 & \\ \hline 44 & \\ -40 & \\ \hline 4 & \end{array}$$

(f) $303 \div 3$

$$\begin{array}{r|l} 3 & 303 \\ -3\downarrow & \hline 00 & 101 \\ -0 & \\ \hline 03 & \\ -3 & \\ \hline 0 & \end{array}$$

**2.** (a) $83 \div 8$

$$\begin{array}{r|l} 8 & 83 \\ -8\downarrow & \hline 03 \\ -0 & \\ \hline 3 & \end{array} \quad 10$$

**Check:**

Quotient × Divisor + Remainder

$= 10 \times 8 + 3 = 83$ $\qquad 83 = 83$

(b) $147 \div 6$

$$\begin{array}{r|l} 6 & 147 \\ -12\downarrow & \hline 27 \\ -24 & \\ \hline 3 & \end{array} \quad 24$$

**Check:** Divided × Divisor × Quotient + Remainder

$= 147 = 6 \times 24 + 3$

$= 144 + 3$ $\qquad 147 = 147$

(c) $293 \div 5$

$$\begin{array}{r|l} 5 & 293 \\ -25\downarrow & \hline 43 \\ -40 & \\ \hline 3 & \end{array} \quad 58$$

**Check:** Divided × Divisor × Quotient + Remainder

$= 293 = 5 \times 58 + 3$

$293 = 290 + 3$

$293 = 293$

## Exercise Time - 6.2

**1.** (a) $\begin{array}{r|l} 29 & 2117 \\ -203\downarrow & \hline 0087 \\ -87 & \\ \hline 00 & \end{array} \quad 73$

Hence $2117 \div 29 = 73$

(b) $\begin{array}{r|l} 47 & 1739 \\ -141\downarrow & \hline 329 \\ -329 & \\ \hline 0 & \end{array} \quad 37$

Hence, $1739 \div 47 = 37$

(c) $\begin{array}{r|l} 21 & 966 \\ -84\downarrow & \hline 126 \\ -126 & \\ \hline 0 & \end{array} \quad 46$

Hence, $966 \div 21 = 46$

(d) $\begin{array}{r|l} 58 & 5916 \\ -58\downarrow\downarrow & \hline 116 \\ -116 & \\ \hline 0 & \end{array} \quad 12$

Hence, $5916 \div 58 = 12$

(e) $\begin{array}{r|l} 17 & 7973 \\ -68\downarrow & \hline 117 \\ -102\downarrow & \\ \hline 153 & \\ -153 & \\ \hline 0 & \end{array} \quad 469$

Hence, $7973 \div 17 = 469$

(f) $\begin{array}{r|l} 56 & 6783 \\ -56\downarrow & \hline 118 \\ -112\downarrow & \\ \hline 63 & \\ -56 & \\ \hline 7 & \end{array} \quad 121$

Hence, $6783 \div 56 = 121$

Remaining Do it yourself.

**2.** (a) $10\overline{)65}\,(6$
$-60$
$5$

Hence, Quotient = 6
Remainder = 5

(b) $100\overline{)7512}\,(75$
$-700\downarrow$
$512$
$-500$
$12$

Hence, Quotient = 75
Remainder = 12

(c) $1000\overline{)8057}\,(80$
$-8000$
$57$

Hence, Quotient = 80
Remainder = 57

(d) $100\overline{)32025}\,(320$
$-3000\downarrow$
$2025$
$-2000$
$25$

Hence, Quotient = 320
Remainder = 25

(e) $10\overline{)635}\,(63$
$-60\downarrow$
$35$
$-30$
$5$

Hence, Quotient = 63
Remainder = 5

(f) $1000\overline{)78065}\,(780$
$-7000\downarrow$
$8065$
$-8000$
$65$

Hence Quotient = 780
Remainder = 65
Remaining Do it yourself

**3.** (a) $11\overline{)1354}\,(123$
$-11\downarrow$
$25$
$-22\downarrow$
$34$
$-33$
$1$

Verification of answer :
Dividend = Quotient × Divisor + Remainder
$= 123 \times 11 + 1$
$= 1353 + 1$
$=$ **1354**
Thus, the answer is correct.

(b) $14\overline{)2573}\,(183$
$-14\downarrow$
$117$
$-112\downarrow$
$53$
$-42$
$11$

Verification of answer :
Dividend = Quotient × Divisor + Remainder
$= 183 \times 14 + 11$
$= 2562 + 11$
$=$ **2573**
Thus, the answer is correct.

(c) $23\overline{)72231}\,(314$
$-69\downarrow$
$32$
$-23\downarrow$
$93$
$-92\downarrow$
$11$

Verification of answer :
Dividend = Quotient × Divisor + Remainder

$= 314 \times 23 + 11$
$= 7222 + 11$
$= \mathbf{7233}$
Thus, the answer is correct.
Do it yourself.
**(Question number d, e, f, g, h and i)**

## Exercise Time - 6.3

**1.** (a)
$$\begin{array}{r|l} 164\overline{)45755} & 278 \\ -328\downarrow & \\ \hline 1295 & \\ -1148\downarrow & \\ \hline 1475 & \\ -1312 & \\ \hline 163 & \end{array}$$

Hence, Quotient = 278
Remainder = 163

(b)
$$\begin{array}{r|l} 143\overline{)22238} & 155 \\ -143\downarrow & \\ \hline 793 & \\ -715\downarrow & \\ \hline 788 & \\ -715 & \\ \hline 73 & \end{array}$$

Hence, Quotient = 155
Remainder = 73
Remaining parts do it yourself

**2.** (a)
$$\begin{array}{r|l} 287\overline{)17968} & 62 \\ -1722\downarrow & \\ \hline 748 & \\ -574 & \\ \hline 174 & \end{array}$$

Hence, Quotient = 62
Remainder = 174

(b)
$$\begin{array}{r|l} 875\overline{)319765} & 365 \\ -2625\downarrow & \\ \hline 5726 & \\ -5250\downarrow & \\ \hline 4765 & \\ -4375 & \\ \hline 390 & \end{array}$$

Hence, Quotient = 365
Remainder = 390
Remaining parts do it yourself

## Exercise Time - 6.4

**1.** Cost of 20 fans = ₹ 4400
Thus, the cost of one fan = $\frac{4400}{20}$
= **₹ 220**

**2.** Product of two numbers = 1152
One number = 12
Thus, other number = $\frac{1152}{12} = \mathbf{96}$

**3.** A dozen = 12
So, $\frac{10224}{12}$ = 852 dozen will make **10224**.

**4.** A lady paid cost of 5 cans of cold drink = ₹ 150
So, she paid each can = $\frac{150}{5} =$ **₹ 30**

**5.** Share of each boy = $\frac{8800}{40} =$ **₹ 220**

**6.** Oranges in each box = $\frac{4000}{25} =$ **1600**

**7.** One week = 7 days
So, $\frac{5061}{7} = 723$
week make **5061** days.

**8.** Shilpa saved = ₹ 12240
So, his monthly saving = $\frac{12240}{12}$
(∵ One year = 12 months) = **₹ 120**

**9.** Arranged books in one shelf = 30 books
So, 6300 books are arranged n shelves

$= \frac{6300}{30} = \mathbf{210}$

**10.** In 33 rows a gardener plants tree
$= 6600$
So, In each row plants
$= \frac{6600}{33} = \mathbf{200}$

## Chapter-7 (Multiples and Factors)

### Exercise Time - 7.1

**1.** 2, 5, 7, 23, 17, 19, and 43

**2.** (a) 2 (b) 4 (c) 1 (d) 8

**3.** (i) 1 and 3 (ii) 3 and 5
(iii) 5 and 7 (iv) 11 and 13
(v) 17 and 19 (vi) 29 and 31
(vii) 41 and 43 (viii) 51 and 53
(ix) 57 and 59 (x) 59 and 61

**4.** (a) 23, 29, 31, 37, 41, 43, 47
(b) 61, 67, 71, 73, 79, 83, 87, 89, 91, 93, 97

**5.** (a) $50 \div 2 = 25$
$25 \div 5 = 5$
$5 \div 5 = 1$

| 2 | 50 |
|---|---|
| 5 | 15 |
| 5 | 5 |
| | 1 |

Thus, taking the product of all the prime
divisor till the quotient is 1, we get
$50 = 2 \times 5 \times 5$

(b) $78 \div 2 = 39$
$39 \div 3 = 13$
$13 \div 13 = 1$

| 2 | 78 |
|---|---|
| 3 | 39 |
| 13 | 13 |
| | 1 |

Thus, taking the product of all the prime divisor
till the quotient is 1, we get
$78 = 2 \times 3 \times 13$

(c) $80 \div 2 = 40$
$40 \div 2 = 20$
$20 \div 2 = 10$
$10 \div 2 = 5$
$5 \div 5 = 1$

| 2 | 80 |
|---|---|
| 2 | 40 |
| 2 | 20 |
| 2 | 10 |
| 5 | 5 |
| | 1 |

Thus, taking the product of all the prime divisor
till the quotient is 1, we get, $80 = 2 \times 2 \times 2 \times 2 \times 5$

(d) $108 \div 2 = 54$
$54 \div 2 = 27$
$27 \div 3 = 9$
$9 \div 3 = 3$
$3 \div 3 = 1$

| 2 | 108 |
|---|---|
| 2 | 54 |
| 3 | 27 |
| 3 | 9 |
| 3 | 3 |
| | 1 |

Thus, taking the product of all the prime divisor
till the quotient is 1,we get, $108 = 2 \times 2 \times 3 \times 3 \times 3$

**6.** (a) $2 + 6 = 8$, i.e., even
(b) $9 + 8 = 17$ i.e., odd
(c) $11 + 12 = 23$ i.e., odd
(d) $16 + 9 = 25$ i.e., odd

### Exercise Time - 7.2

**1.** Sixth multiple of $12 = 12 \times 6 = 72$

**2.** All the multiples of 6 which less the 40 $= 6 \times 1, 6 \times 2, 6 \times 3, 6 \times 4, 6 \times 5, 6 \times 6$
6, 12, 18, 24, 30, 36

**3.** Multiples of 8 between 20 and 50 $= 8 \times 3, 8 \times 4, 8 \times 5, 8 \times 6$
24, 32, 40, 48

**4.** The smallest (non-zero) multiple of 24 = 24

**5.** (a) F (b) T (c) F (d) T

**6.** (a) 24, 36, 48, 72
(b) 5, 10, 35, 45, 95
(c) 6, 14, 18, 24
(d) 18, 30, 42, 48

### Exercise Time - 7.3

**1.** (a) Factors of 8 = 2 and 4
(b) Factors of 15 = 3 and 5
(c) Factors of 24 = 2, 3, 4, 6, 8 and 12
(d) Factors of 26 = 2 and 13

**2.** (a) Two factors of $35 = 35 \div 5 = 7, 35 \div 7 = 5$
Hence, 7 & 5 are factors of 35.

(b) Two factors of 40
$= 40 \div 5 = 8$
$= 40 \div 8 = 5$
Hence, 8 and 5 are two factors of 40.

(c) Two factors of $96 \div 8 = 12$,
$96 \div 12 = 8$
Hence, 8 and 12 are two factors of 96.

(d) Two factors of $75 = 75 \div 5$
$= 15, 75 \div 15 = 5$
Hence, 5 and 15 are two factors of 75.

(e) Two factors of $60 = 60 \div 5 = 12$,
$= 60 \div 12$
$= 5$
Hence, 5 and 12 are two factors of 60.

(f) Two factors of $125 = 125 \div 5 = 25$,
$= 125 \div 25$
$= 5$
Hence, 5 and 25 are two factors of 125.

(g) Two factors of $144 = 144 \div 2$
$= 72$,
$= 144 \div 72$
$= 2$
Hence, 2 and 72 are two factors of 144.

(h) Two factors of $45 = 45 \div 5 = 9$,
$= 45 \div 9$
$= 5$
Hence, 5 and 9 are two factors of 45.

**3.** Do it yourself.

**4.** 1, 2, 3, 4, 6, 9, 12

**5.** (a) 3 (b) 2 (c) 1 (d) 60

## Exercise Time - 7.4

Do it yourself.

## Exercise Time - 7.5

**1.** (a) $2, 12 = 2 \times 12$
LCM $= 2 \times 12 = 24$

(b)

| 2 | 12 |
|---|---|
| 2 | 6 |
| 3 | 3 |
| | 1 |

| 2 | 48 |
|---|---|
| 2 | 24 |
| 2 | 12 |
| 2 | 6 |
| 3 | 3 |
| | 1 |

$12 = 2 \times 2 \times 3$
$48 = 2 \times 2 \times 2 \times 2 \times 3$
LCM of 12 and 48 $= 2 \times 2 \times 2 \times 2 \times 3 = 48$

(c)

| 2 | 12 |
|---|---|
| 2 | 6 |
| 3 | 3 |
| | 1 |

| 2 | 16 |
|---|---|
| 2 | 8 |
| 2 | 4 |
| 2 | 2 |
| | 1 |

| 2 | 20 |
|---|---|
| 2 | 10 |
| 5 | 5 |
| | 1 |

$12 = 2 \times 2 \times 3$
$16 = 2 \times 2 \times 2 \times 2$
$20 = 2 \times 2 \times 5$
LCM of 12, 16 and 20 $= 2 \times 2 \times 2 \times 2 \times 3 \times 5 = 240$

(d)

| 5 | 25 |
|---|---|
| 5 | 5 |
| | 1 |

| 3 | 75 |
|---|---|
| 5 | 25 |
| 5 | 5 |
| | 1 |

| 2 | 100 |
|---|---|
| 2 | 50 |
| 5 | 25 |
| 5 | 5 |
| | 1 |

$25 = 5 \times 5$ , $75 = 3 \times 5 \times 5$
$100 = 2 \times 2 \times 5 \times 5$
LCM of 25, 75 and 100 $= 2 \times 2 \times 3 \times 5 \times 5 = 300$

**Do it yourself. (question no. 5, 6, 7, 8, 9, 10, 11 and 12)**

**2.** (a)

| 2 | 93, 62, 120 |
|---|---|
| 2 | 93, 31, 60 |
| 2 | 93, 31, 30 |
| 3 | 93, 31, 15 |
| 5 | 31, 31, 5 |
| 31 | 31, 31, 1 |
| | 1, 1, 1 |

LCM $= 2 \times 2 \times 2 \times 3 \times 5 \times 31$

(b)

| | |
|---|---|
| 2 | 64, 72, 96 |
| 2 | 32, 36, 48 |
| 2 | 16, 18, 24 |
| 2 | 8, 9, 12 |
| 2 | 4, 9, 6 |
| 2 | 2, 9, 3 |
| 3 | 1, 9, 3 |
| 3 | 1, 3, 1 |
| | 1, 1, 1 |

LCM = $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3$
= **576**

(c)

| | |
|---|---|
| 2 | 55, 275, 308 |
| 2 | 55, 275, 154 |
| 5 | 55, 275, 77 |
| 5 | 11, 55, 77 |
| 7 | 11, 11, 77 |
| 1 | 11, 11, 11 |
| | 1, 1, 1 |

LCM = $2 \times 2 \times 5 \times 5 \times 7 \times 11$
= **2700**

(d)

| | |
|---|---|
| 2 | 28, 42, 80 |
| 2 | 14, 21, 40 |
| 2 | 7, 21, 20 |
| 2 | 7, 21, 10 |
| 3 | 7, 21, 5 |
| 5 | 7, 7, 5 |
| 7 | 7, 7, 5 |
| | 1, 1, 1 |

LCM = $2 \times 2 \times 2 \times 2 \times 3 \times 5 \times 7$ =
**1680**

(e)

| | |
|---|---|
| 2 | 75, 90, 120 |
| 2 | 75, 45, 60 |
| 2 | 75, 45, 30 |
| 3 | 75, 45, 15 |
| 3 | 25, 15, 5 |
| 5 | 25, 5, 5 |
| 5 | 5, 1, 1 |
| | 1, 1, 1 |

LCM = $2 \times 2 \times 2 \times 3 \times 3 \times 5$
= **6800**

(f)

| | |
|---|---|
| 2 | 48, 60, 84 |
| 2 | 24, 30, 42 |
| 2 | 12, 15, 21 |
| 2 | 6, 15, 21 |
| 3 | 3, 15, 21 |
| 5 | 1, 5, 7 |
| 7 | 1, 1, 7 |
| | 1, 1, 1 |

LCM = $2 \times 2 \times 2 \times 2 \times 3 \times 5 \times 7$ = **1680**

(g)

| | |
|---|---|
| 2 | 65, 115, 130 |
| 5 | 65, 115, 65 |
| 13 | 13, 23, 13 |
| 23 | 1, 23, 1 |
| | 1, 1, 1 |

LCM = $2 \times 5 \times 13 \times 23$ = **2990**

(h)

| | |
|---|---|
| 2 | 290, 360, 480 |
| 2 | 145, 130, 240 |
| 2 | 145, 65, 120 |
| 2 | 145, 65, 60 |
| 5 | 145, 65, 35 |
| 7 | 29, 13, 7 |
| 13 | 29, 13, 1 |
| 29 | 29, 1, 1 |
| | 1, 1, 1 |

LCM = $2 \times 2 \times 2 \times 2 \times 2 \times 3 \times$
$7 \times 13 \times 29$ = **211120**

(i)

| | |
|---|---|
| 2 | 288, 300, 224 |
| 2 | 144, 150, 112 |
| 2 | 72, 75, 56 |
| 2 | 36, 75, 28 |
| 2 | 18, 75, 14 |
| 3 | 9, 75, 7 |
| 3 | 3, 25, 7 |
| 5 | 1, 25, 7 |
| 5 | 1, 5, 7 |
| 7 | 1, 1, 7 |
| | 1, 1, 1 |

LCM = $2 \times 2 \times 2 \times 2 \times 5 \times 7$

$3 \times 5 \times 5 \times 7 =$ **50400**

(j)

| | |
|---|---|
| 2 | 255, 340, 765 |
| 2 | 255, 170, 165 |
| 3 | 255, 85, 765 |
| 3 | 85, 85, 225 |
| 15 | 85, 85, 85 |
| 17 | 17, 17, 17 |
| | 1, 1, 1 |

LCM = $2 \times 2 \times 3 \times 3 \times 5 \times 17 =$ **3060**

(k)

| | |
|---|---|
| 2 | 156, 234, 312 |
| 2 | 78, 117, 156 |
| 2 | 39, 117, 78 |
| 3 | 39, 117, 39 |
| 3 | 13, 39, 13 |
| 13 | 13, 13, 13 |
| | 1, 1, 1 |

LCM = $2 \times 2 \times 3 \times 3 \times 13 =$ **936**

(l)

| | |
|---|---|
| 2 | 44, 60, 36 |
| 2 | 22, 30, 18 |
| 3 | 11, 15, 9 |
| 3 | 11, 5, 3 |
| 5 | 11, 5, 1 |
| 11 | 11, 1, 1 |
| | 1, 1, 1 |

LCM = $2 \times 2 \times 3 \times 3 \times 5 \times 1$
= **1980**

## Exercise Time - 7.6

**1.** (a)

| | |
|---|---|
| 3 | 15 |
| 5 | 5 |
| | 1 |

| | |
|---|---|
| 2 | 30 |
| 3 | 15 |
| 5 | 5 |
| | 1 |

$15 = 3 \times 5$ $30 = 2 \times 3 \times 5$
Common prime factors = 3 & 5
$\therefore$ HCF = $3 \times 5 = 15$

(b)

| | |
|---|---|
| 2 | 28 |
| 2 | 14 |
| 7 | 7 |
| | 1 |

| | |
|---|---|
| 2 | 70 |
| 5 | 35 |
| 7 | 7 |
| | 1 |

$28 = 2 \times 2 \times 7$, $70 = 2 \times 5 \times 7$
Common factors = 2 and 7
HCF = $2 \times 7 = 14$

(c)

| | |
|---|---|
| 2 | 24 |
| 2 | 12 |
| 2 | 6 |
| 3 | 6 |
| | 1 |

| | |
|---|---|
| 2 | 108 |
| 2 | 54 |
| 3 | 27 |
| 3 | 9 |
| 3 | 3 |
| | 1 |

$108 = 2 \times 2 \times 3 \times 3 \times 3 \times 3$
$48 = 2 \times 2 \times 2 \times 2 \times 3$
Common factors = 2 and 3
$\therefore$ HCF = $2 \times 2 \times 3 = 12$

(d)

| | |
|---|---|
| 2 | 78 |
| 3 | 39 |
| 13 | 13 |
| | 1 |

| | |
|---|---|
| 2 | 120 |
| 2 | 60 |
| 2 | 30 |
| 3 | 15 |
| 5 | 5 |
| | 1 |

| | |
|---|---|
| 2 | 162 |
| 3 | 81 |
| 3 | 27 |
| 3 | 9 |
| 3 | 3 |
| | 1 |

$78 = 2 \times 3 \times 13$
$120 = 2 \times 2 \times 2 \times 3 \times 5$
$162 = 2 \times 3 \times 3 \times 3 \times 3$
HCF = $2 \times 3 = 6$

(e)

| | |
|---|---|
| 2 | 60 |
| 2 | 30 |
| 3 | 15 |
| 5 | 5 |
| | 1 |

| | |
|---|---|
| 2 | 72 |
| 2 | 36 |
| 2 | 18 |
| 3 | 9 |
| 3 | 3 |
| | 1 |

$60 = 2 \times 2 \times 3 \times 5$
$72 = 2 \times 2 \times 2 \times 3 \times 3$
HCF = $2 \times 3 = 6$

(f)

| | |
|---|---|
| 2 | 58 |
| 29 | 29 |
| | 1 |

| | |
|---|---|
| 2 | 174 |
| 3 | 87 |
| 29 | 29 |
| | 1 |

$58 = 2 \times 29$
$74 = 2 \times 3 \times 29$

HCF = 2

(g)

| 2 \| 24 |
|---|
| 2 \| 12 |
| 2 \| 6 |
| 3 \| 3 |
| \| 1 |

| 2 \| 120 |
|---|
| 2 \| 60 |
| 2 \| 30 |
| 5 \| 25 |
| 5 \| 5 |
| \| 1 |

| 2 \| 162 |
|---|
| 3 \| 81 |
| 3 \| 27 |
| 3 \| 9 |
| 3 \| 3 |
| \| 1 |

$24 = 2 \times 2 \times 2 \times 3$

$120 = 2 \times 2 \times 2 \times 5 \times 5$

$162 = 2 \times 3 \times 3 \times 3 \times 3 \times 3$

HCF = 2

(h)

| 2 \| 12 |
|---|
| 2 \| 6 |
| 2 \| 3 |
| \| 1 |

| 3 \| 15 |
|---|
| 5 \| 5 |
| \| 1 |

| 2 \| 18 |
|---|
| 3 \| 9 |
| 3 \| 3 |
| \| 1 |

$12 = 2 \times 2 \times 3$

$15 = 3 \times 5$

$18 = 2 \times 3 \times 3$

HCF = 2

(i)

| 2 \| 8 |
|---|
| 2 \| 4 |
| 2 \| 2 |
| \| 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 |

$8 = 2 \times 2 \times 2$

$64 = 2 \times 2 \times 2 \times 2 \times 2 \times 2$

$72 = 2 \times 2 \times 2 \times 3 \times 3$

HCF = $2 \times 2 \times 2 = 8$

**2.** (a)

$$\begin{array}{r} 124\overline{)132}(1 \\ -124 \\ \hline 8\overline{)124}(15 \\ -8 \\ \hline 44 \\ -40 \\ \hline 4\overline{)8}(2 \\ -8 \\ \hline \times \end{array}$$

HCF of 124 and 132 = 4

(b)

$$\begin{array}{r} 30\overline{)39}(1 \\ -30 \\ \hline 9\overline{)72}(8 \\ -72 \\ \hline 0 \end{array}$$

HCF of 30, 39 and 72 = 9

(c)

$$\begin{array}{r} 44\overline{)121}(2 \\ -88 \\ \hline 33\overline{)44}(1 \\ -33 \\ \hline 11 \end{array} \qquad \begin{array}{r} 14\overline{)132}(12 \\ -10 \\ \hline 22 \\ -22 \\ \hline 0 \end{array}$$

HCF of 44, 121 and 132 = 11

(d)

$$\begin{array}{r} 42\overline{)56}(1 \\ -42 \\ \hline 14\overline{)42}(3 \\ -42 \\ \hline 0 \end{array} \qquad \begin{array}{r} 14\overline{)154}(11 \\ -14 \\ \hline 14 \\ -14 \\ \hline 0 \end{array}$$

HCF of 42, 56 and 154 = 14

## Exercise Time - 7.7

**1.** (a)

| 2 \| 12, 16, 22 |
|---|
| 2 \| 6, 8, 11 |
| 2 \| 3, 4, 11 |
| 2 \| 3, 2, 11 |
| 3 \| 3, 1, 11 |
| 11 \| 1, 1, 11 |
| \| 1, 1, 1 |

LCM = $2 \times 2 \times 2 \times 2 \times 3 \times 11 = 528$

**2.**

$$\begin{array}{r} 48\overline{)56}(1 \\ -48 \\ \hline 8\overline{)48}(6 \\ -48 \\ \hline \times \end{array} \qquad \begin{array}{r} 8\overline{)80}(10 \\ -80 \\ \hline 0 \end{array}$$

$\therefore$ Minimum capacity of tanker
= 8 + 8 = 16 litres

**3.** Product of two number = 12
HCF = 3
$\therefore$ HCF × LCM
= Product of numbers
$3 \times LCM = 12 \quad LCM = \frac{12}{3} = 4$

**4.**
$$\begin{array}{r} 10\overline{)15}(1 \\ -10 \\ \hline 5\overline{)10}(2 \\ -10 \\ \hline 0 \end{array} \qquad \begin{array}{r} 5\overline{)20}(4 \\ -20 \\ \hline \times \end{array}$$

HCF (maximum length of each piece = 5 m

**5.**
$$\begin{array}{r} 36\overline{)63}(1 \\ -36 \\ \hline 27\overline{)36}(1 \\ -27 \\ \hline 9\overline{)27}(3 \\ -27 \\ \hline 0 \end{array} \qquad \begin{array}{r} 9\overline{)90}(10 \\ -90 \\ \hline 0 \end{array}$$

If remainder 9 in each case so the greatest number = $3 \times 9 = 27$

## Chapter-8 (Fractions)

### Exercise Time - 8.1

**1.** (a) $\frac{1}{5}$ (b) $\frac{2}{8}$ (c) $\frac{5}{9}$ (d) $\frac{4}{11}$

**2.** (a) $\frac{2}{9}$ (b) $\frac{5}{8}$ (c) $\frac{4}{5}$
(d) $\frac{3}{6}$ (e) $\frac{5}{12}$ (f) $\frac{3}{11}$

**3.** (a) denominator (b) numerator
(c) denominator (d) denominator

**4.** Do it yourself

### Exercise Time - 8.2

**1.** (a) $\frac{2}{9} = \frac{2\times2}{9\times2} = \frac{2\times3}{9\times3} = \frac{2\times4}{9\times4}$
$= \frac{4}{18} = \frac{6}{27} = \frac{8}{36}$

(b) $\frac{3}{14} = \frac{3\times2}{14\times2} = \frac{3\times3}{14\times3} = \frac{3\times4}{14\times4}$
$= \frac{6}{28} = \frac{9}{42} = \frac{12}{56}$

(c) $\frac{12}{17} = \frac{12\times12}{17\times2} = \frac{12\times3}{17\times3} = \frac{12\times4}{17\times4}$
$= \frac{24}{34} = \frac{36}{51} = \frac{48}{68}$

(d) $\frac{26}{44} = \frac{26\times2}{44\times2} = \frac{26\times3}{44\times3} = \frac{26\times4}{44\times4}$
$= \frac{52}{88} = \frac{78}{132} = \frac{104}{176}$

**2.** (a) $\frac{3}{4} = \frac{[\ ]}{8} \qquad \frac{3\times2}{4\times2} = \frac{[6]}{8}$

(b) $\frac{3}{5} = \frac{12}{[\ ]} \qquad \frac{3\times4}{5\times4} = \frac{12}{[20]}$

(c) $\frac{4}{15} = \frac{[\ ]}{45} \qquad \frac{4\times3}{15\times3} = \frac{[12]}{45}$

Remaining parts do it yourself.

**3.** Find the equivalent fraction of $\frac{56}{80}$ having :

(a) Numerator 7
$= \frac{56}{80} = \frac{56\times7}{80\times7} = \frac{392}{560}$

(b) Denominator 10
$= \frac{56}{80} = \frac{56\times10}{80\times10} = \frac{560}{800}$

**5.** (a) $\neq$ (b) $\neq$ (c) = (d) $\neq$

**6.** Do it yourself.

**7.** (a) $\frac{12}{18} = \frac{12\div2}{18\div2} = \frac{6\div3}{9\div3} = \frac{2}{3}$

(b) $\frac{36}{45} = \frac{36\div3}{45\div3} = \frac{12\div3}{15\div3} = \frac{4}{5}$

(c) $\frac{8}{18} = \frac{8\div2}{18\div2} = \frac{4}{9}$

(d) $\frac{45}{100} = \frac{45\div5}{100\div5} = \frac{9}{20}$

(e) $\frac{28}{42} = \frac{28\div2}{42\div2} = \frac{14\div2}{16\div2} = \frac{7}{8}$

(f) $\frac{50}{125} = \frac{50 \div 5}{125} = \frac{10 \div 5}{25 \div 5} = \frac{2}{5}$

(g) $\frac{24}{64} = \frac{24 \div 2}{64 \div 2} = \frac{12 \div 2}{32 \div 2}$

$= \frac{6 \div 2}{16 \div 2} = \frac{3}{8}$

(h) $\frac{26}{39} = \frac{26 \div 13}{39 \div 13} = \frac{2}{3}$

**8.** (a) 1 day = 24 hours

12 hours $= \frac{13}{36} = \frac{1}{3}$ part

$\therefore$ 12 hours is $\frac{1}{3}$ of a day

(b) 1 year = 12 months

3 months $= \frac{3}{12} = \frac{1}{4}$

$\therefore$ 3 months is $\frac{1}{4}$ of one year

(c) 1 rupee = 100 paise

60 paise $= \frac{60}{100} = \frac{6}{10} = \frac{3}{5}$

$\therefore$ 60 paise is $\frac{3}{5}$ of a rupee

(d) 1 kg = 1000 g

750 gm $= \frac{750}{1000} = \frac{75}{100} = \frac{3}{4}$

$\therefore$ 750 from is $\frac{3}{4}$ of a kilogram

**9.** $\frac{1}{3}$, $\frac{5}{8}$ and $\frac{9}{13}$ one in their lowest tens

## Exercise Time - 8.3

**1., 2., 3., 4.** Do it yourself.

**5.** (a) $\frac{5}{3}$ (To convert $\frac{5}{3}$ as a mixed fraction we divide 5 by 3)

$\therefore 1\frac{2}{3}$ (as a mixed fraction)

$$3\overline{)5}\,(1$$
$$\underline{-3}$$
$$2$$

(b) $\frac{4}{3}$ (To convert $\frac{4}{3}$ as a mixed fraction we divide 4 by 3)

$$3\overline{)4}\,(1$$
$$\underline{-3}$$
$$1$$

$\therefore 1\frac{1}{3}$ (as a mixed fraction)

(c) $\frac{7}{5}$ (To convert $\frac{7}{5}$ as a mixed fraction we divide 7 by 5)

$$5\overline{)7}\,(1$$
$$\underline{-5}$$
$$2$$

$\therefore 1\frac{2}{5}$ (as a mixed fraction)

(d) $\frac{9}{2}$ (To convert $\frac{9}{2}$ as a mixed fraction we divide 9 by 2)

$$2\overline{)9}\,(4$$
$$\underline{-8}$$
$$1$$

$\therefore 4\frac{1}{2}$ (as a mixed fraction)

(e) $\frac{18}{5}$ (To convert $\frac{18}{5}$ as a mixed fraction we divide 18 by 5)

$$5\overline{)18}\,(3$$
$$\underline{-15}$$
$$3$$

$\therefore 3\frac{3}{5}$ (as a mixed fraction)

(f) $\frac{11}{7}$ (To convert $\frac{11}{7}$ as a mixed fraction we divide 11 by 7)

$$7\overline{)11}\,(1$$
$$\underline{-7}$$
$$4$$

$\therefore 1\frac{4}{7}$ (as a mixed fraction)

(g) $\frac{20}{7}$ (To convert $\frac{20}{7}$ as a mixed fraction we divide 20 by 7)

$$7\overline{)20}\,(2$$
$$-14$$
$$6$$

$\therefore 2\frac{6}{7}$ (as a mixed fraction)

(h) $\frac{13}{5}$ (To convert $\frac{13}{5}$ as a mixed fraction we divide 13 by 5)

$$5\overline{)13}\,(2$$
$$-10$$
$$3$$

$\therefore 2\frac{3}{5}$ (as a mixed fraction)

## Exercise Time - 8.4

**1.** (a) True (b) True (c) False (d) True

**2.** (a) > (b) > (c) < (d) < (e) > (f) < (g) > (h) =

**3.** (a) The LCM of 3, 6 and 12

$2 \times 2 \times 3 = 12$

| | |
|---|---|
| 2 | 3, 6, 12 |
| 2 | 3, 3, 6 |
| 3 | 3, 3, 3 |
| | 1, 1, 1 |

Now,

$\frac{4}{3} = 12 \div 3 = 4 = \frac{4 \times 4}{3 \times 4} = \frac{16}{12}$

$\frac{7}{6} = 12 \div 6 = 2 = \frac{7 \times 2}{6 \times 2} = \frac{14}{12}$

$\frac{8}{12} = 12 \div 12 = 1 = \frac{8 \times 1}{12 \times 1} = \frac{8}{12}$

Arrange these fraction in ascending order :

$\frac{8}{12} < \frac{14}{12} < \frac{16}{12}$

$\frac{8}{12} < \frac{7}{6} < \frac{4}{3} = \frac{8}{12}, \frac{7}{6}, \frac{4}{3}$

(b) The LCM of 6, 10, 15 and 3 = $2 \times 3 \times 5 = 30$

| | |
|---|---|
| 2 | 6, 10, 15, 3 |
| 3 | 3, 5, 15, 3 |
| 5 | 1, 5, 5, 1 |
| | 1, 1, 1, 1 |

Now,

$\frac{1}{6} = 30 \div 6 = 5 = \frac{1 \times 5}{6 \times 5} = \frac{5}{30}$

$\frac{3}{10} = 30 \div 10 = 3 = \frac{3 \times 3}{10 \times 3} = \frac{9}{30}$

$\frac{8}{15} = 30 \div 15 = 2 = \frac{8 \times 2}{15 \times 2} = \frac{16}{30}$

$\frac{1}{3} = 30 \div 3 = 10 = \frac{1 \times 10}{3 \times 10} = \frac{10}{30}$

Arrange these fractions in descending order :

$\frac{5}{30} < \frac{9}{30} < \frac{10}{30} < \frac{16}{30}$

$\frac{1}{6} < \frac{3}{10} < \frac{1}{3} < \frac{8}{15} = \frac{1}{6}, \frac{3}{10}, \frac{1}{3}, \frac{8}{15}$

(c) Ascending order

$\frac{5}{9} < \frac{6}{9} < \frac{8}{9} = \frac{5}{9}, \frac{6}{9}, \frac{8}{9}$

(d) The LCM of 3, 6 and 9 = $2 \times 3 \times 3 = 18$

| | |
|---|---|
| 2 | 3, 6, 9 |
| 3 | 3, 3, 9 |
| 3 | 1, 1, 3 |
| | 1, 1, 1 |

Now,

$\frac{2}{3} = 18 \div 3 = 6 = \frac{2 \times 6}{3 \times 6} = \frac{12}{18}$

$\frac{5}{6} = 18 \div 6 = 3 = \frac{5 \times 3}{6 \times 3} = \frac{15}{18}$

$\frac{1}{9} = 18 \div 9 = 2 = \frac{1 \times 2}{9 \times 2} = \frac{2}{18}$

Arrange in ascending order :

$$\frac{2}{18} < \frac{12}{18} < \frac{15}{18}$$

$$\frac{1}{9} < \frac{2}{3} < \frac{5}{6} = \frac{1}{9}, \frac{2}{3}, \frac{5}{6}$$

## Exercise Time - 8.5

**1.** (a) $\frac{4}{8} + \frac{3}{8} = \frac{4+3}{8} = \frac{7}{8}$

(b) $\frac{7}{11} + \frac{3}{11} = \frac{(7+3)}{11} = \frac{10}{11}$

(c) $\frac{17}{25} + \frac{13}{25} = \frac{(17+13)}{25} = \frac{30}{25}$

(d) $\frac{8}{18} + \frac{8}{18} = \frac{(8+8)}{18} = \frac{16}{18}$

(e) $\frac{14}{31} + \frac{13}{31} = \frac{(14+13)}{31} = \frac{27}{31}$

(f) $\frac{2}{6} + \frac{3}{6} = \frac{(2+3)}{6} = \frac{5}{6}$

(g) $\frac{4}{17} + \frac{5}{17} + \frac{2}{17} = \frac{(4+5+2)}{17} = \frac{11}{17}$

(h) $\frac{7}{36} + \frac{8}{36} + \frac{13}{36} = \frac{(7+8+13)}{36}$

$= \frac{28}{36}$

(i) $\frac{11}{10} + \frac{13}{10} + \frac{21}{10} = \frac{11+13+21}{10} = \frac{45}{10}$

**2.** (a) $1\frac{2}{6} + 3\frac{1}{9}$ LCM of 6 and 9 = 18

$(1+3)\left(\frac{2}{6} + \frac{1}{9}\right)$

$4\left(\frac{2 \times (18 \div 6) + 1 \times (18 \div 9)}{18}\right)$

$= 4\left(\frac{(2 \times 3) + (1 \times 2)}{18}\right)$

$= 4\left(\frac{6+12}{18}\right) = 4\left(\frac{8}{10}\right) = 4\frac{4}{9}$

(b) $2\frac{2}{5} + 3\frac{7}{10}$

LCM of 5 and 10 = 10

$(2+3)\left[\frac{2}{5} + \frac{7}{10}\right]$

$5\left[\frac{2 \times (10 \div 2) + 7 \times (10 \div 10)}{10}\right]$

$5\left[\frac{2 \times 5 + 7 \times 1}{10}\right]$

$5\left[\frac{10+7}{10}\right] = 5\frac{17}{10}$

(c) $4\frac{3}{5} + \frac{26}{10}$ LCM of 5 and 10 = 10

$(4+2)\left(\frac{3}{5} + \frac{6}{10}\right)$

(6)$\left[\frac{3 \times (10 \div 5) + 6 \times (10 \div 10)}{10}\right]$

$6\left[\frac{3 \times 2 + 6 \times 1}{10}\right]$

$6\left[\frac{6+6}{10}\right] = 6\left[\frac{12}{10}\right] = 6\frac{6}{5}$

(d) $7\frac{2}{5} + 4\frac{1}{30}$

LCM of 5 and 30 = 30

$(7+4)\left[\frac{2}{5} + \frac{1}{30}\right]$

$= 11\left[\frac{2\,(30 \div 5) + 1\,(30 \div 30)}{30}\right]$

$= 11\left[\frac{2 \times 6 + 1 \times 1}{30}\right]$

$= 11\left[\frac{12+1}{30}\right] = 11\left[\frac{13}{30}\right] = 11\frac{13}{30}$

(e) $2\frac{1}{8} + 3\frac{1}{4}$

(LCM of 8 and 4 = 8)

$(2+3)\left(\frac{1}{8} + \frac{1}{4}\right)$

$= 5\left[\frac{1 \times (8 \div 8) + 1\,(8 \div 4)}{8}\right]$

$= 5\left[\frac{1 \times 1 + 1 \times 2}{8}\right] = 5\left[\frac{1+2}{8}\right]$

$= 5\frac{3}{8}$

(f) $2\frac{3}{9} + 1\frac{4}{18}$

(LCM of 9 and 18 = 18)

$(2+1)\left(\frac{3}{9} + \frac{4}{18}\right)$

$= 3\left[\frac{3\times(18\div 3)+4\times(18\div 18)}{18}\right]$

$= 3\left[\frac{3\times 6+4\times 1}{18}\right] = 3\left(\frac{18+12}{18}\right)$

$= 3\left(\frac{30}{18}\right) = 3\left(\frac{5}{9}\right) = 3\frac{5}{3}$

(g) $6\frac{1}{7}+4\frac{2}{14}+1\frac{1}{13}$

(LCM of 7, 14 and 13 = 182)

$(6+4+1)\left(\frac{1}{7}+\frac{2}{14}+\frac{1}{13}\right)$

$= 11\left[\frac{1\times(182\div 7)+2\times(182\div 14)+1(182\div 13)}{182}\right]$

$= 11\left[\frac{1\times 26+2\times 13+14}{182}\right]$

$= 11\left[\frac{26+26+14}{182}\right] = 11\left[\frac{66}{182}\right]$

$= 11\frac{33}{91}$

Remaining parts do it yourself.

## Exercise Time - 8.6

**1.** (a) 0 (b) $\frac{9}{12}$ (c) $\frac{7}{8}$ (d) $1\frac{1}{2}$

**2.** (a) True (b) False (c) False (d) False

**3.** (a) $\frac{13}{8}-\frac{7}{8}=\left(\frac{13-7}{8}\right)=\frac{6}{8}$

(b) $\frac{12}{9}-\frac{5}{9}=\left(\frac{12-5}{9}\right)=\frac{7}{9}$

(c) $\frac{17}{13}-\frac{11}{13}=\left(\frac{17-11}{13}\right)=\frac{6}{13}$

(d) $\frac{25}{7}-\frac{5}{7}=\left(\frac{25-5}{7}\right)=\frac{20}{7}$

(e) $\frac{19}{14}-\frac{18}{14}=\left(\frac{19-18}{14}\right)=\frac{1}{14}$

(f) $\frac{15}{16}-\frac{11}{16}=\left(\frac{15-11}{16}\right)=\frac{4}{16}$

**4.** (a) $\frac{7}{9}-\frac{5}{7}$

(LCM of 9 and 7 = 63)

$= \frac{(7\times 63\div 9)-(5\times 63\div 7)}{63}$

$= \frac{7\times 7-5\times 9}{63} = \frac{49-45}{63} = \frac{4}{63}$

(b) $\frac{7}{9}-\frac{7}{12}$

(LCM of 9 and 12 = 36)

$= \frac{(7\times 36\div 9)-(7\times 36\div 12)}{36}$

$= \frac{7\times 4-7\times 3}{36} = \frac{28-21}{36} = \frac{7}{36}$

(c) $\frac{11}{12}-\frac{5}{9}$

(LCM of 12 and 9 = 36)

$= \frac{(11\times 36\div 12)-(5\times 36\div 9)}{36}$

$= \frac{11-3-5\times 4}{36}$

$= \frac{33-20}{36} = \frac{13}{36}$

Remaining parts do it yourself.

**5.** (a) $4\frac{5}{9}-2\frac{1}{3}$

(LCM of 9 and 3 = 9)

$(4-2)\left[\frac{(5\times 9\div 9)-(1\times 9\div 3)}{9}\right]$

$= 2\left[\frac{5\times 1-1\times 3}{9}\right] = 2\left(\frac{5-3}{9}\right) = 2\frac{2}{9}$

(b) $5\frac{7}{12}-\frac{1}{2}$

(LCM of 12 and 2 = 12)

$(5-0)\left(\frac{7}{12}-\frac{1}{2}\right)$

$= 5\left[\frac{(7\times 12\div 12)-(1\times 12\div 2)}{12}\right]$

$= 5\left(\frac{7\times 1-1\times 6}{12}\right) = 5\left(\frac{7-6}{12}\right)$

$= 5\frac{1}{12}$

(c) $7\frac{7}{20} - 6\frac{1}{4}$

(LCM of 20 and 4 = 20)

$(7-6)\left(\frac{7}{20} - \frac{1}{4}\right)$

$= 1\left[\frac{(7\times 20 \div 20) - (1\times 20 \div 4)}{20}\right]$

$= 1\left[\frac{(7\times 1 - (1\times 5)}{20}\right] = 1\left[\frac{7-5}{20}\right]$

$= 1\frac{2}{20}$ or $1\frac{1}{10}$

Remaining parts do it yourself.

**6.** (a) $\frac{9}{16} + \frac{7}{4} - \frac{5}{8}$

(LCM of 16, 4, 8 = 16)

$$\left[\frac{(9\times 16 \div 16) + (7\times 16 \div 4) - (5\times 16 \div 8)}{16}\right]$$

$$= \frac{9\times 1 + 7\times 4 - 5\times 2}{16}$$

$$= \frac{9 + 28 - 10}{16} = \frac{37-10}{16} = \frac{27}{16}$$

(b) $\frac{9}{14} - \frac{1}{7} + \frac{1}{2}$

(LCM of 14, 7 and 2 = 14)

$$= \frac{9\times(14\div 14) - 1\times(14\div 7) + 1\times(14\div 2)}{14}$$

$$= \frac{9\times 1 - 1\times 2 + 1\times 7}{14}$$

$$= \frac{9\div 2 + 7}{14} = \frac{14}{14} = 1$$

Remaining parts do it yourself

## Exercise Time - 8.7

**1.** Length of ribbon of three pieces

$= 3\frac{1}{2}$ m, $2\frac{2}{3}$ m, 2 m

So, the total length of ribbon

$3\frac{1}{2} + 2\frac{2}{3} + 2$

$\frac{7}{2} + \frac{8}{3} + 2 = \frac{7}{2} + \frac{8+6}{3}$

$= \frac{7}{2} + \frac{14}{3} = \frac{7\times 3 + 14\times 2}{6}$

$= \frac{21+28}{6} = \frac{49}{6} = 8\frac{1}{6}$ m

**2.** A bucket has a water $= 3\frac{1}{9} = \frac{28}{9}$ lit.

Water added $= \frac{2}{9}$ lit.

So, Amount of water bucket contain now

$= \frac{28}{9} + \frac{2}{9} = \frac{(28+2)}{9} = \frac{30}{9} = \frac{10}{3}$ lit.

**3.** Arjun spent money in a fair = ₹ $3\frac{1}{2}$

His brother spent money in a fair

= ₹ $4\frac{1}{5}$

So, the money spend at the fair by both,

$3\frac{1}{2} + 4\frac{1}{5} = (3+4)\left(\frac{1}{2} + \frac{1}{5}\right)$

$= 7\left(\frac{1\times 5 + 1\times 2}{10}\right)$

$= 7\left(\frac{5+2}{10}\right) =$ ₹ $7\frac{7}{10}$

**4.** Length of a cloth $= 6\frac{3}{4}$ m

Length of a piece of cloth $= 4\frac{2}{9}$ m

So, the length of left cloth

$= \left(6\frac{3}{4} - 4\frac{2}{9}\right)$ m $= (6-4)\left(\frac{3}{4} - \frac{2}{9}\right)$ m

$= 2\left(\frac{3\times 9 - 2\times 4}{36}\right)$ m

$= 2\left(\frac{27-8}{36}\right)$ m $= 2\frac{19}{36}$ m

**5.** Height of pole $= 6\frac{3}{8}$ m

The height of monkey climbed

on pole $= 4\frac{1}{5}$ m

So, height left to reach the top on pole to money

$= \left(6\frac{3}{8} - 4\frac{1}{5}\right)$ m $= (6-4)\left(\frac{3}{8} - \frac{1}{5}\right)$ m

$= 2\left(\frac{3\times 5 - 1\times 8}{40}\right)$ m

$= 2\left(\frac{15-8}{40}\right) = 2\left(\frac{7}{40}\right)$ or $2\frac{7}{40}$ m

## Exercise Time - 8.8

**1.** (a) $\frac{1}{3}\times 7 = \frac{1\times 7}{3} = \frac{7}{3}$

(b) $\frac{2}{5}\times 10 = \frac{2\times 10}{5} = \frac{20}{5} = 4$

(c) $\frac{9}{5}\times 4 = \frac{9\times 4}{5} = \frac{36}{5}$

(d) $\frac{3}{5}\times 8 = \frac{3\times 8}{5} = \frac{24}{5}$

(e) $\frac{7}{22}\times 33 = \frac{7\times 33}{22} = \frac{221}{22}$

(f) $\frac{5}{7}\times 5 = \frac{5\times 5}{7} = \frac{25}{7}$

**2.** (a) $\frac{8}{10}\times\frac{3}{8} = \frac{8\times 3}{10\times 8} = \frac{3}{10}$

(b) $\frac{6}{10}\times 1\frac{2}{5} = \frac{6}{10}\times\frac{7}{5} = \frac{42}{50} = \frac{21}{25}$

(c) $2\frac{1}{2}\times 1\frac{1}{2} = \frac{5}{2}\times\frac{3}{2} = \frac{15}{4}$

(d) $1\frac{5}{12}\times 7\frac{1}{5} = \frac{17}{12}\times\frac{36}{5}$

$= \frac{17\times 3}{5} = \frac{51}{5}$

(e) $8\frac{1}{2}\times\frac{3}{6} = \frac{17}{2}\times\frac{3}{6} = \frac{51}{12}$

(f) $4\frac{1}{8}\times 1\frac{10}{11} = \frac{33}{8}\times\frac{21}{11}$

$= \frac{3\times 21}{8} = \frac{63}{8}$

**3.** (a) $\frac{1}{2}\times 18 = 9$ (b) $\frac{1}{4}\times 28 = 7$

(c) $\frac{9}{12}\times 96 = 9\times 8 = 72$

(d) $\frac{3}{7}\times 56 = 3\times 8 = 24$

(e) $\frac{5}{9}\times 36 = 5\times 4 = 20$

(f) $\frac{1}{5}\times 200 = 40$

**4.** (a) 4 times $\frac{1}{32} = \frac{1}{8}$

(b) 6 times $\frac{2}{42} = 6\times\frac{2}{42}$

(c) $8\times\frac{3}{64} = \frac{3}{8} = \frac{2}{7}$

(d) $8\times\frac{1}{16} = \frac{1}{2}$

(e) $63\times\frac{4}{7} = 36$ (f) $3\times\frac{2}{3} = 2$

**5.** (a) $18 = \frac{18}{1} = \frac{1}{18}$ (b) $20 = \frac{20}{1} = \frac{1}{20}$

(c) $\frac{5}{13} = \frac{13}{5}$ (d) $\frac{2}{7} = \frac{7}{2}$

(e) $4\frac{1}{3} = \frac{13}{3} = \frac{3}{13}$ (f) $5\frac{1}{7} = \frac{36}{7} = \frac{7}{36}$

(g) $\frac{3}{5} = \frac{5}{3}$ (h) $1\frac{3}{4} = \frac{7}{4} = \frac{4}{7}$

(i) $1\frac{2}{7} = \frac{9}{7} = \frac{7}{9}$

**6 and 7** Do it yourself.

## Exercise Time - 8.9

**1.** (a) $\frac{1}{7}\div 3 = \frac{1}{7}\times\frac{1}{3} = \frac{1}{21}$

(b) $\frac{2}{5}\div 4 = \frac{2}{5}\times\frac{1}{4} = \frac{2}{20} = \frac{1}{10}$

(c) $\frac{5}{14}\div 3 = \frac{5}{14}\times\frac{1}{3} = \frac{5}{42}$

(d) $5\frac{6}{7}\div 28 = \frac{41}{7}\times\frac{1}{28} = \frac{41}{196}$

(e) $\frac{9}{11}\div 9 = \frac{9}{11}\times\frac{1}{9} = \frac{1}{11}$

(f) $5\frac{8}{15}\div 6 = \frac{83}{15}\times\frac{1}{6} = \frac{83}{90}$

(g) $\frac{2}{7} \div 7 = \frac{2}{7} \times \frac{1}{7} = \frac{2}{49}$

(h) $72 \div 8\frac{1}{7} = \frac{1}{72} \times \frac{57}{7} = \frac{57}{504}$

**2.** (a) $4\frac{2}{7} \div \frac{25}{49} = \frac{30}{7} \times \frac{49}{25} = \frac{6 \times 7}{5} = \frac{42}{5}$

(b) $\frac{1}{12} \div 2\frac{1}{24} = \frac{1}{12} \times \frac{24}{49} = \frac{2}{49}$

(c) $8\frac{7}{8} \div 11\frac{2}{6} = \frac{71}{8} \times \frac{6}{68} = \frac{426}{544} = \frac{213}{272}$

(d) $1\frac{9}{10} \div 2\frac{1}{12} = \frac{19}{10} \times \frac{12}{25} = \frac{228}{250} = \frac{114}{125}$

Remaining parts do it yourself.

## Exercise Time - 8.10

**1.** Length of a rope $= 7\frac{1}{5} = \frac{36}{5}$ m

It divided into 6 pieces equally.
Then, the length of each equally piece $= \frac{36}{5} \div 6 = \frac{36}{5} \times \frac{1}{6} = \frac{6}{5}$ metre.

**2.** Amount of oil in a tin = 100 kg

Used oil $= \frac{2}{25}$

(a) then, amount of used oil
$= 100 \times \frac{2}{25} = \frac{200}{25} = 4$ kg

(b) amount of left oil
$= (100 - 4)$ kg $= 96$ kg

**3.** Number of student in a class = 60

No.of girls in a class $= \frac{2}{6}$ of all students

Then, number of girls $= 60 \times \frac{2}{6} = 20$

So, number of boys $= 60 - 20 = 40$

**4.** Number of books have a shopkeeper = 42

Number of English language books $= \frac{1}{6}$ of total book

Then, the number of English language book $= 42 \times \frac{1}{6} = 7$

# Chapter-9 (Decimals)

## Exercise Time - 9.1

**1.** (a) 47 (b) 3.09 (c) .24 (d) 9.71

**2.** (a) $.003 = \frac{3}{1000}$ (b) $.005 = \frac{5}{1000}$

(c) $.04 = \frac{4}{100}$ (d) $.7 = \frac{7}{10}$

(e) $2.8 = \frac{28}{10}$ (f) $1.07 = \frac{107}{100}$

(g) $6.,915 = \frac{6915}{1000}$ (h) $2.008 = \frac{2008}{1000}$

**3.** (a) $\frac{4}{10} = 0.4$ (b) $\frac{13}{100} = 0.13$

(c) $\frac{5}{1000} = 0.005$ (d) $\frac{508}{100} = 5.08$

(e) $5\frac{8}{10} = \frac{58}{10} = 5.8$ (f) $\frac{4567}{1000} = 4.567$

(g) $5\frac{5}{1000} = \frac{15005}{1000} = 15.005$

(h) $\frac{8}{100} = 0.08$

**4.** (a) $2.5 = 2\frac{5}{10}$ (b) $5.24 = 5\frac{24}{100}$

(c) $6.87 = 6\frac{87}{100}$ (d) $13.49 = 13\frac{49}{100}$

(e) $56.14 = 56\frac{14}{100}$ (f) $115.4 = 115\frac{4}{10}$

(g) $734.5 = 734\frac{5}{10}$ (h) $100.3 = 100\frac{3}{10}$

**5.** (a) Point zero eight

(b) Forty eight point five six

(c) 9.143 (d) Three

## Exercise Time - 9.2

**1.** (a) $0.41 = 0 + \frac{4}{10} + \frac{1}{100}$

(b) $0.245 = 0 + \frac{2}{10} + \frac{4}{100} = \frac{5}{1000}$

(c) $3.397 = 3 + \frac{3}{10} + \frac{9}{100} + \frac{7}{1000}$

(d) $80.03 = 80 + \frac{0}{10} + \frac{3}{100}$

(e) $856.265 = 800 + 50 + 6 +$

(f) $7.546 = 7 + \frac{5}{10} + \frac{4}{100} + \frac{6}{100}$

(g) $70.509 = 70 + \frac{5}{10} + \frac{0}{100} + \frac{9}{1000}$

(h) $29.9 = 29 + \frac{9}{10}$

**2.** (a) $0.5 + 0.07 = 0.57$

(b) $0.9 + 0.007 = 0.907$

(c) $5 + 0.4 + 0.08 = 5.48$

(d) $50 + 3 + 0.4 + 0.06 = 53.46$

(e) $0.6 + 0.08 = 0.68$

(f) $0.3 + 0.07 + 0.009 = 0.379$

**3.** Do it yourself.

## Exercise Time - 9.3

**1.** Do it yourself.

**2.** (a) descending order
= 0.5, 0.36, 0.3, 0.16, 0.05

(b) descending order
= 0.8, 0.7, 0.65, 0.4, 0.05

(c) descending order
= 0.461, 0.451, 0.450, 0.406

(d) descending order
= 10.65, 5.61, 0.65, 0.56

**3.** (a) ascending order
= 0.08, 0.1, 0.3, 0.4, 0.6

(b) ascending order
= 0.136, 0.3, 2.516, 18.534

(c) ascending order
= 0.1608, 3.640, 4.5, 8.6645, 9.2

(d) ascending order
= 3.04, 3.1, 3.14, 3.5, 3.65

**4.** and **5.** Do it yourself.

## Exercise Time - 9.4

**1.** (a)
$$\begin{array}{r} 39.32 \\ +\,636.20 \\ \hline 675.52 \end{array}$$

(b)
$$\begin{array}{r} 2.546 \\ 12.235 \\ +\,36.120 \\ \hline 50.901 \end{array}$$

(c)
$$\begin{array}{r} 5326.8 \\ 235.5 \\ +\,200.55 \\ \hline 5762.85 \end{array}$$

(d)
$$\begin{array}{r} 456.5 \\ 3035.2 \\ +\,135.6 \\ \hline 3627.3 \end{array}$$

(e)
$$\begin{array}{r} 235.4 \\ 365.3 \\ +\,248.39 \\ \hline 849.09 \end{array}$$

(f)
$$\begin{array}{r} 5.325 \\ +\,679.230 \\ \hline 684.555 \end{array}$$

(g)
$$\begin{array}{r} 83.135 \\ 276.800 \\ +\,0.020 \\ \hline 359.955 \end{array}$$

(h)
$$\begin{array}{r} 254.68 \\ 66.352 \\ +\,0.310 \\ \hline 321.342 \end{array}$$

**2.** (a)
$$\begin{array}{r} 0.80 \\ -\,0.60 \\ \hline 0.20 \end{array}$$

(b)
$$\begin{array}{r} 3.58 \\ -1.66 \\ \hline 1.92 \end{array}$$

(c)
$$\begin{array}{r} 66.80 \\ -\,3.91 \\ \hline 62.89 \end{array}$$

(d)
$$\begin{array}{r} 75.00 \\ -\,6.95 \\ \hline 68.05 \end{array}$$

(e)
$$\begin{array}{r} 295.636 \\ -\,65.183 \\ \hline 230.453 \end{array}$$

(f)
$$\begin{array}{r} 50.708 \\ -\,31.855 \\ \hline 18.853 \end{array}$$

(g)
$$\begin{array}{r} 626.53 \\ -\,93.76 \\ \hline 532.77 \end{array}$$

(h)
$$\begin{array}{r} 235.050 \\ -\,194.076 \\ \hline 050.974 \end{array}$$

**3.** (a)
$$\begin{array}{r} 1.5 \\ +2.2 \\ \hline 3.7 \end{array}$$

(b)
$$\begin{array}{r} 14.56 \\ -5.46 \\ \hline 9.10 \end{array}$$

The sum of 1.5 and 2.2 is 3.7

The diff. of 14.56 and 5.46 is 9.10

(c) Addition and subtraction of decimals is some as addition and subtraction of **ordinary** number

**4.** Do it yourself.

## Exercise Time - 9.5

**1.** (a) 55 paise = 0.55 (b) 890 paise = 0.890 (c) 2025 paise = 0.2025

(d) ₹ 18 and 7 paise = 18.07

Remaining parts do it yourself.

# Chapter-10 (The Unitary Method)

## Exercise Time - 10.1

**1.** (a) Cost of one packet of biscuits = ₹12

So, the cost of dozen such packet biscuits = ₹ 12 × 12 = ₹144

(b) Cost of 6 lt. petrol = ₹ 264.50
So, the cost of one lt. petrol
$= \frac{264.50}{6} =$ ₹ 44.833

(c) Cost of 8 pen = ₹ 40
So, the cost of 1 pen $= \frac{40}{8} =$ ₹ 5

(d) Karan covers the distance by car in an hour = 58 km
So, he cover distance in 21 hours = 58 × 21 = 1218 km

(e) The length of 9 rolls of wires = 540 m
So, the length of each rolls of wires $= \frac{540}{9} = 60$ m

(f) Amount of oil in a bottle = 400 ml
So, the amount oil in such 6 bottle = 400 ml × 6 = 2400 ml
Hence, Richa bought 2400 ml oil.

(g) The train fair from chandigarh to New Delhi for 2 passengers = ₹694
So, for one passenger $= \frac{694}{2}$
= ₹ 347
Then, for 6 passenger = ₹ 347 × 6
= ₹ 2082

(h) Cost of dozen birthday card = ₹48
So, the cost of one card $= \frac{48}{12} =$ ₹ 4
Hence, the cost of 9 such card
= 4 × 9 = ₹ 36

(i) Per year rent of a house = ₹ 85150
So, the monthly rent of that house
$= \frac{85150}{12} = 795.8$

(j) In 9 dags Poornima makes toys = 198
So, in 1 days she makes toys
$= \frac{198}{9} = 22$
Hence, In 5 days she makes toys = 22 × 5 = 110

(k) 6 trucks carry a cement = 760 bags

(l) 5 aeroplanes carry passenger = 1560
So, Number of passenger carry by one aeroplane $= \frac{1560}{5} = 312$
Hence, the number of passenger carry by such 7 aeroplan = 312 × 7 = 2184

## Chapter-11 (Money)

### Exercise Time - 11.1

**1.** (a) ₹6.40
₹ 1 = 100 p ₹ 6 = 600 p
∴600 + 40 = 640 p

(b) ₹ 56.86 1 = 100 p
∴(56 × 100) p + 86 p
= 5600 p + 86 p = 5686 p

(c) ₹ 183.24 ₹ 1 = 100 p
∴183 × 100 p + 24 p
(18300 + 24) p = 18324 p

(d) ₹ 653.05 ₹ 1 = 100 p
∴653 × 100 p + 05 p
= 65300 p + 05 p = 65305 p

(e) ₹ 16.53 ₹ 1 = 100 p
∴16 × 100 p + 53 p
(1600 + 53) p = 1653 p

(f) ₹ 5125.43 ₹ 1 = 100 p
∴5125 × 100 p + 43 p
= 512500 p + 43 p = 512543 p

(g) ₹ 1504.63 ₹ 1 = 100 p
∴1504 × 100 p + 63 p
150400 p + 63 p = 150463 p

(h) ₹ 766.80 ₹ 1 = 100 p
∴766 × 100 p + 80 p
(76600 + 80) p = 76680 p

(i) ₹ 75.93 ₹ 1 = 100 p
∴75 × 100 p + 93 p = 7593 p

**2.** (a) 843 p ₹ 1 = 1000 p
800 p + 43 p = ₹ 8.43
Remaining parts do it yourself.

**3.** Do it yourself.

**4.** (a) ₹ 46.43 → Rupees forty six and forty three paise

(b) ₹ 83.56 → Rupees eighty three and fifty six paise

(c) ₹ 74.47 → Rupees seventy four and forty seven paise

(d) ₹ 68.16 → Rupees sixty eight and sixteen paise

(e) ₹ 14.45 → Rupees fourteen and forty five paise

(f) ₹ 67.25 → Rupees sixty seven and twenty five paise

**5.** (a)
₹ 43.50
+ ₹ 8.78
₹ 52.28

(b)
₹ 651.86
+ ₹ 258.40
₹ 910.26

(c)
₹ 1756.90
+ ₹ 4253.57
₹ 6010.47

(d)
₹ 52805.00
+ ₹ 13256.40
₹ 76061.40

Remaining parts do it yourself

**6.** (a)
₹ 86.24
– ₹ 24.86
₹ 61.38

(b)
₹ 7327.54
– ₹ 1216.32
₹ 6111.22

(c)
₹ 4537.60
– ₹ 3426.40
₹ 1111.20

(d)
₹ 6634.26
– ₹ 3421.89
₹ 3212.37

Remaining parts do it yourself.

**7.** (a) Costs of bicycle = ₹ 1898.50

His saved money = ₹ 875.40

₹ 1898.50
– ₹ 875.40
₹ 1023.10

So, Rinku need more money saved

(b) Sandeep buy a school bag = ₹ 140.40

He buy a set of pen = ₹ 46.74

He buy a set of pencil = ₹ 84.23

He spend money = ₹ 271.37

₹ 140.40
₹ 46.74
+ ₹ 84.23
₹ 271.37

(c) Cost of washing machine = ₹ 24694.60

At the time of purchase a man paid a cost = ₹ 13834.80

₹ 24694.60
– ₹ 13834.80
₹ 10859.80

So, Rest instalments

(d) In a beginning of the month a trader worth of good had= ₹ 20000

He sold good during the month = – ₹ 14275

Goods remaining of the end of the months = ₹ 5725

₹ 20000
– ₹ 14275
₹ 5725

**8. 9, 10.** Do it yourself.

## Exercise Time - 11.2

**1.** (a)
₹ 195.40
× 6
₹ 1172.40

(b) ₹356.28 × 12 = ₹4275.36

(c) ₹56615.65 × 14 = ₹786619.10

(d) ₹6278.50 × 9 = ₹56556.50

(e) ₹ 91493.39 × 16 = ₹1463890.24

(f) ₹1238.60 × 17 = ₹21056.20

**2.** (a)

$$
\begin{array}{r}
5.252 \\
7\overline{)36.77} \\
-35 \\
\hline
17 \\
-14 \\
\hline
37 \\
-35 \\
\hline
20 \\
-14 \\
\hline
6
\end{array}
$$

quotient 5.252

(b)

$$
\begin{array}{r}
630.1 \\
12\overline{)7561.12} \\
-72 \\
\hline
36 \\
-36 \\
\hline
00012 \\
-12 \\
\hline
00
\end{array}
$$

quotient = 630.1

(c)

$$
\begin{array}{r}
1525.7 \\
5\overline{)7625.35} \\
-5 \\
\hline
26 \\
-25 \\
\hline
12 \\
-10 \\
\hline
25 \\
-25 \\
\hline
0035 \\
-35 \\
\hline
0
\end{array}
$$

Q = 1525.7

(d)

$$
\begin{array}{r}
25.85 \\
8\overline{)206.80} \\
-16 \\
\hline
46 \\
-40 \\
\hline
68 \\
-64 \\
\hline
40 \\
-40 \\
\hline
0
\end{array}
$$

Q = 25.85

(e)

$$
\begin{array}{r}
55.1 \\
25\overline{)1375.25} \\
-125 \\
\hline
125 \\
-125 \\
\hline
00025 \\
-25 \\
\hline
0
\end{array}
$$

Q = 55.1

(f)

$$
\begin{array}{r}
35.43 \\
6\overline{)1832.60} \\
-18 \\
\hline
032 \\
-30 \\
\hline
26 \\
-24 \\
\hline
20 \\
-18 \\
\hline
2
\end{array}
$$

Q = 35.43

**3.** (a) Cost of one packet ball = ₹ 68.60

$$\begin{array}{r} 68.60 \\ \times\ 20 \\ \hline 0000 \\ 7720\times \\ \hline 772.00 \end{array}$$

So, the cost of 20 such packets ball

(b) Amount collection on a month by five partners = ₹ 57725

So, the share of each partners

$= ₹ \frac{75725}{5} = ₹ 75145$

(c) Cost of 10 items = ₹ 1500

So, the cost of 1 items

$= ₹ \frac{1500}{10} = ₹ 150$

(d) Cost of a lamp-shade = ₹ 2645.70

$$\begin{array}{r} ₹\ 2645.70 \\ \times\ 15 \\ \hline 132285 0 \\ 26457 0\times \\ \hline ₹\ 39685.50 \end{array}$$

So, the cost of 15 such lamp-shade

**Exercise Time - 11.3**

Do it yourself.

## Chapter-12 (Measurement)

**Exercise Time - 12.1**

**1.** (a) 75cm

$1\text{ cm} = \frac{1}{100}\text{ m} \quad \therefore \frac{75}{100} = 0.75\text{ m}$

(b) 5 *l* 25 ml

1 *l* = 1000 ml

∴(5000 + 725) ml

= 5 l 725 ml

(c) 6 *l*

1l = 1000 ml

∴6 l = 6 × 1000 ml = 6000 ml

(d) 2568 cm

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

= 2500 cm + 68 cm

= 25 m 68 cm

(e) 6537 m  1 km = 1000 m

∴6000 m + 537 m

= 6 km = 537 m

(f) 9004 g

1 kg = 1000 g

∴9000 g + 4 g = 9 kg 4 g

(g) 15286 g

1 kg = 1000 g

∴15000 g + 286 g = 15 kg 286 g

(h) 5034 ml

1 l = 1000 ml

∴5000 ml + 34 ml = 5 l 34 ml

**2, 3, 4.** Do it yourself.

**Exercise Time - 12.2**

**1.** (a)

| kg | g |
|---|---|
| 5 | 70 |
| +12 | 275 |
| 17 | 345 |

So, 5 kg + 70 g + 12 kg 275 g

= 17 kg 345 g = 31 m

(b)

| m | cm |
|---|---|
| 24 | 70 |
| + 6 | 275 |
| 31 | 345 |

So, 24 m 74 cm + 6 m 26 cm

(c)

| *l* | ml |
|---|---|
| 23 | 225 |
| 94 | 150 |
| + 5 | 650 |
| 123 | 025 |

So, 23 l 225 ml + 94 l 150 ml + 5l 650 ml = 123 l 025 ml

(d)

| kg | g |
|---|---|
| 7 | 258 |
| 8 | 865 |
| +3 | 367 |
| 19 | 490 |

So, 7 kg 258 g + 8 kg 865 g + 3 kg 367 g = 19 kg 490 g

(e)

| | km | m |
|---|---|---|
| | 25 | 674 |
| | 56 | 600 |
| + | 8 | 622 |
| | 90 | 896 |

So, 25 km 674 m + 56 km 600 m + 8 km 622 m = 90 km 896 m

(f)

| | *l* | ml |
|---|---|---|
| | 75 | 625 |
| | 34 | 258 |
| + | 4 | 73 |
| | 113 | 956 |

So, 75 l 625 ml + 34 l 258 ml + 4 l 73 ml = 113 l 956 ml

(g)

| | m | cm |
|---|---|---|
| | 18 | 83 |
| | 6 | 34 |
| + | 8 | 74 |
| | 33 | 91 |

So, 18 m 83 cm + 6 m 34 cm + 8 m 74 cm = 33 m 91 cm

(h)

| | km | m | cm |
|---|---|---|---|
| | 9 | 300 | 40 |
| | 6 | 155 | 800 |
| + | 8 | 158 | 45 |
| | 23 | 614 | 245 |

So, 9 km 300 m 40 cm + 6 km 155 m 800 cm + 8 km 158 m 45 cm = 23 km 614 m 245 cm

**1.** (a)

| | kg | g |
|---|---|---|
| | 34 | 000 |
| – | 4 | 608 |
| | 29 | 392 |

So, 34 kg – 4 kg 608 g = 8 km 540 m

(b)

| | km | g |
|---|---|---|
| | 15 | 000 |
| – | 6 | 460 |
| | 8 | 540 |

So, 15 km – 6 km 460 m = 29 kg 392 g

(c)

| ml |
|---|
| 3046 |
| 1636 |
| 1410 |

So, 304 ml – 1636 ml= 1410 ml

(d)

| | kg | g |
|---|---|---|
| | 39 | 236 |
| – | 17 | 895 |
| | 21 | 341 |

So, 39 kg 236 g – 17 kg 895 g = 21 kg 341 g

(e)

| | km | m | cm |
|---|---|---|---|
| | 7 | 260 | 64 |
| – | 4 | 140 | 30 |
| | 3 | 120 | 34 |

So, 7 cm 260 m 64 cm – 4 km 140 m 30 m = 3 km

(f)

| | km | m | cm |
|---|---|---|---|
| | 87 | 300 | 60 |
| – | 53 | 600 | 90 |
| | 33 | 699 | 70 |

So, 87 km 300 m 60 cm – 120 m 34 cm 53 km 600 m 90 cm = 33 km 699 m 70 cm

## Exercise Time - 12.3

**1.** (a)

| | | |
|---|---|---|
| | 48 m | 65 cm |
| | | × 8 |
| | 182 m | 60 cm |

(b)

| | | |
|---|---|---|
| | 48 m | 25 cm |
| | | × 8 |
| | 386 m | 00 cm |

(c)

| | | |
|---|---|---|
| | 5 *l* | 46 ml |
| | | × 12 |
| | 10 | 92 |
| | 54 | 6 |
| | 65 *l* | 52 ml |

(d)

| | | |
|---|---|---|
| | 84 m | 44 cm |
| | | × 6 |
| | 506 m | 64 cm |

(e) 194 km 18 m × 7 = 1359 km 88 m

(f) 105 kg 245 g × 5 = 526 kg 225 g

(g) 24 km 145 m × 6 = 144 km 870 m

(h) 16 *l* 540 ml × 16 = 264 *l* 640 ml

(i) 7 kg 634 g × 13 = 99 kg 242 g

**2.** (a)

| | *l* | ml |
|---|---|---|
| 5 | 600 | 50 |
| | 5 | 12010 |
| | 10 | |
| | −10 | |
| | 000 | 50 |
| | | −50 |
| | | 0 |

So, 600 *l* 50 ml ÷ 5 = 120 *l* 10 ml

(b)

| | km | m |
|---|---|---|
| 3 | 96 | 285 |
| | 9 | 3295 |
| | 06 | |
| | −6 | |
| | 0 | 28 |
| | | −27 |
| | | 15 |
| | | −15 |
| | | 0 |

So, 96 km 285 ml ÷ 3 = 32 km 95 ml

(c)

| | kg | g | |
|---|---|---|---|
| 25 | 1930 | 550 | 77222 |
| | 175 | | |
| | 180 | | |
| | −175 | | |
| | | 55 | |
| | | −50 | |
| | | 50 | |
| | | −50 | |
| | | × | |

So, 1930 kg 550 g ÷ 25 = 77 kg 222 g

(d)

| | m | cm | |
|---|---|---|---|
| 12 | 612 | 24 | 512 |
| | 60 | | |
| | 12 | | |
| | −12 | | |
| | 000 | 24 | |
| | | −24 | |
| | | 12 | |

So, 612 m 24 cm = 5 m 12 cm

(e)

| | kg | g | |
|---|---|---|---|
| 5 | 157 | 50 | 3150 |
| | 15 | | |
| | 007 | 5 | |
| | −5 | | |
| | 2 | 5 | |
| | −2 | 5 | |
| | 0 | 00 | |

So, 157 kg 50 g ÷ 5 = 3 kg 150 g

(f)

| | km | m | |
|---|---|---|---|
| 7 | 287 | 868 | 41124 |
| | 28 | | |
| | 007 | | |
| | −7 | | |
| | 0 | 86 | |
| | | −7 | |
| | | 16 | |
| | | −14 | |
| | | 28 | |
| | | −28 | |
| | | 0 | |

So, 287 km 868 cm ÷ 7
= 41 km 124 cm

(g)
```
                kg        g
  16 ) 3 9 5 2   5 9 2 ( 24737
       3 2 ↓     ↓   ↓
         7 5     ↓   ↓
       – 6 4 ↓   ↓   ↓
         1 1 2   ↓   ↓
       – 1 1 2 ↓ ↓   ↓
         0 0 0   5 9 ↓
               – 4 8 ↓
                 1 1 2
               – 1 1 2
                   0
```

So, 3952 kg 592 g ÷ 16 = 247 kg 37 g

(h)
```
                l        ml
  24 ) 4 8 0   9 6 0 ( 2040
       – 4 8 ↓ ↓   ↓
         0 0 0 9 6 ↓
               – 9 6 ↓
                 0 0 0
```

So, 480 *l* 960 ml ÷ 24 = 20 *l* 40 ml

(i)
```
                l        ml
  20 ) 4 0 0   4 0 ( 402
       – 8 0 ↓ ↓   ↓
         0 0 0 4 0 ↓
               – 4 0
                 0 0
```

So, 400 *l* 40 ml ÷ 20 = 40 *l* 2 ml

## Exercise Time - 12.4

**1.** Length of a wire roll = 90 m
Prakunj cut a piece of wire roll
= 47 m 84 cm

| m | cm |
|---|---|
| 90 | 00 |
| – 47 | 84 |
| 42 | 16 |

So, the length of left wire

**2.** Do it yourself.

**3.** Weight of a biryani in a bowl = 3 kg 600 g

```
   kg   g
9 ) 3  6 0 0 ( 400 g
  – 3  6 0 0
       0
```

So, the weight of a biryani distributed among 9 children

**4.** An athelete runs everyday = 7 km 567 m
So, In a week he runs =

| | |
|---|---|
| 7 km | 5 6 7 m |
| | × 7 |
| 52 km | 9 6 9 m |

**5.** Lengths of two poles = 134 m 45 cm
The length they are joined together
= 128 m 54 cm

| | |
|---|---|
| 1 3 4 m | 4 5 cm |
| + 1 2 8 m | 5 4 cm |
| 2 6 2 m | 9 9 cm |

# Chapter-13 (Measurement of Time)

## Exercise Time - 13.1

**1. and 2.** Do it yourself.

**3.** (a) 15 hrs. 1 hrs. = 60 m
So, 15 hrs. 15 × 60 m = 900 m

(b) 6 hrs. 15 m
6 × 60 m + 35 m
= 360 m + 35 m = 395 m

(c) 14 hrs. 20 m
14 × 60 m + 20 m
= 840 m + 20 m = 860 m

(d) 4 hrs. 15 m
4 × 60 m + 15 m
= 240 m + 15 m = 255 m

(e) 8 hrs. 45 m
8 × 60 m + 45 m
= 980 m + 45 m= 525 m

(f) 9 hrs.

$9 \times 60$ m = 540 m

(g) 12 hrs. 45 m

$12 \times 60$ m + 45 m

= 720 m + 45 m = 765 m

(h) 7 hrs. 35 m

$7 \times 60$ m + 35 m

= 420 m + 35 m = 455 m

(i) 8 hrs. 46 m

$= 8 \times 60$ m + 46 m = 480 m + 46 m

= 526 m

**4.** (a) 84 min

60 m = 1 hrs

$84 \div 60$ 1 min 24 m

(b) 642 m

$642 \div 60$ 1 hours 42 min

(c) 168 m

$168 \div 60$ 2 hours 48 min

(d) 640 m

$640 \div 60$ 1 hour 40 min

(e) 224 m

$224 \div 60$ 3 hrs. 44 min

(f) 260 m

$260 \div 60$ 4 hrs. 20 min

(g) 250 m

$250 \div 60$ 4 hrs. 10 min

(h) 290 m

$290 \div 60$ 4 hrs. 50 h

(i) 370 m

$370 \div 60$ 6 hrs. 10 m

(j) 280 m

$280 \div 60$ 4 hrs. 40 m

**5.** (a) 25 min 1 m = 60 s

So, 25 m = $25 \times 60$ s

= 1500 second

(b) 28 m 1 m = 60 s

So, 28 m = $28 \times 60$ s = 1680 s

(c) 50 m 1 m = 60 s

50 m = $50 \times 60$ s

= 3000 s

(d) 44 m 2 sec 1 m = 60 s

So, $44 \times 60$ s + 2 s

2640 s + 2 s = 4642 sec.

(e) 5 m 34 sec

$5 \times 60$ sec + 34 sec

= 300 sec + 34 sec = 334 sec

(f) 12 m 50 sec

$= 12 \times 60$ sec + 50 sec

= 720 sec + 50 sec = 770 sec

(g) 18 m 18 s

$18 \times 60 + 18$ s

1080 + 18 s 1098 sec

(h) 7 m 58 sec

$7 \times 60$ s + 58 sec

420 s + 58 sec = 478 sec

(i) 8 m 34 sec

$8 \times 60$ sec + 34 sec

480 sec + 34 sec = 514 sec

**6.** (a) 87 sec

$87 \div 60$ sec 1 m 27 sec

(b) 164 sec

$164 \div 60$ sec 2 m 44 sec

(c) 640 sec

$640 \div 60$ sec 1 m 40 sec

(d) 382 sec

$382 \div 60$ sec 6 m 22 sec

(e) 265 sec

$265 \div 60$ sec 4 m 25 sec

(f) 570 sec

$570 \div 60$ sec 9 m 30 sec

**7.** (a) 124 m

1 hrs. = 60 m

So, $124 \div 60$ m 2 hrs. 4 m

(b) 265 m

1 = 60 m

So, $265 \div 60$ m 4 hrs. 25 m

(c) 478 m

$478 \div 60$ m 7 hrs. 58 m

(d) 698 m

$698 \div 60$ m 2 hrs. 38 m

Remaining part do it yourself.

## Exercise Time - 13.2

Do it yourself.

## Exercise Time - 13.3

**1.** (a)

| hrs | m |
|---|---|
| 6 | 25 |
| +3 | 12 |
| 9 | 37 |

(b)

| hrs | m |
|---|---|
| 12 | 17 |
| +11 | 55 |
| 23 | 72 |

(c)

| hrs | m |
|---|---|
| 3 | 26 |
| + 7 | 52 |
| 10 | 78 |

(d)

| hrs | m |
|---|---|
| 6 | 32 |
| + 2 | 16 |
| 8 | 48 |

(e)

| hrs | m |
|---|---|
| 14 | 36 |
| + 4 | 22 |
| 18 | 58 |

(f)

| hrs | m |
|---|---|
| 15 | 03 |
| + 4 | 57 |
| 19 | 60 |

(g)

| hrs | m |
|---|---|
| 3 | 40 |
| + 5 | 26 |
| 8 | 66 |

(h)

| hrs | m |
|---|---|
| 22 | 43 |
| +12 | 21 |
| 34 | 64 |

**2.** (a)

| hrs | m |
|---|---|
| 3 | 23 |
| – 2 | 46 |
| 0 | 77 |

(b)

| hrs | m |
|---|---|
| 9 | 32 |
| – 3 | 58 |
| 5 | 74 |

(c)

| hrs | m |
|---|---|
| 6 | 12 |
| – 3 | 26 |
| 2 | 86 |

(d)

| hrs | m |
|---|---|
| 6 | 13 |
| – 4 | 58 |
| 1 | 55 |

(e)

| hrs | m |
|---|---|
| 8 | 35 |
| – 5 | 12 |
| 3 | 23 |

(f)

| hrs | m |
|---|---|
| 14 | 35 |
| – 7 | 52 |
| 6 | 83 |

(g)

| hrs | m |
|---|---|
| 8 | 31 |
| – 4 | 49 |
| 3 | 82 |

(h)

| hrs | m |
|---|---|
| 17 | 13 |
| – 13 | 29 |
| 3 | 84 |

## Exercise Time - 13.4

**1.** (a)

| hrs | m | sec |
|---|---|---|
| 3 | 43 | 51 |
| + 4 | 48 | 23 |
| 7 | 91 | 74 |

(b)

| hrs | m | sec |
|---|---|---|
| 4 | 32 | 45 |
| + 6 | 15 | 08 |
| 10 | 47 | 53 |

(c)

| hrs | m | sec |
|---|---|---|
| 6 | 36 | 46 |
| + 3 | 54 | 28 |
| 9 | 90 | 74 |

(d)

| hrs | m | sec |
|---|---|---|
| 6 | 55 | 26 |
| + 3 | 05 | 51 |
| 9 | 60 | 77 |

(e)

| hrs | m | sec |
|---|---|---|
| 8 | 46 | 58 |
| + 3 | 15 | 24 |
| 11 | 61 | 82 |

**2.** (a)

| hrs | m | sec |
|---|---|---|
| 12 | 25 | 20 |
| – 6 | 48 | 56 |
| 5 | 76 | 64 |

(b)

| hrs | m | sec |
|---|---|---|
| 9 | 23 | 42 |
| – 7 | 48 | 59 |
| 1 | 74 | 83 |

(c)

| hrs | m | sec |
|---|---|---|
| 13 | 09 | 06 |
| – 11 | 34 | 23 |
| 1 | 74 | 83 |

(d)

| hrs | m | sec |
|---|---|---|
| 25 | 28 | 47 |
| – 21 | 18 | 54 |
| 04 | 09 | 93 |

(e)

| hrs | m | sec |
|---|---|---|
| 12 | 36 | 36 |
| – 10 | 47 | 53 |
| 1 | 88 | 83 |

## Exercise Time - 13.5

**1.** (a)

| | |
|---|---|
| 14 m | 18 sec |
| | × 4 |
| 56 m | 72 sec |

(b) 13 m 24 sec × 6 = 79 m 44 sec

(c) 3 hrs 17 m 14 sec × 5 = 15 hrs 85 m 70 sec

(d) 7 hrs 32 min 23 sec × 9 = 65 hrs 90 min 07 sec

(e) 12 hrs 15 m 20 sec × 3 = 36 hrs 45 m 60 sec

(f) 13 hrs 16 m 28 sec × 7 = 92 hrs 13 m 96 sec

(g) 6 hrs 30 m 34 sec × 8 = 50 hrs 42 m 72 sec

(h) 6 hrs 14 m 12 sec × 6 = 36 hrs 84 m 72 sec

**2.** (a)

| | m | sec |
|---|---|---|
| 5 ) | 40 | 25 ( 24737 sec |
| | 40 ↓ | ↓ |
| | 00 | 25 |
| | | − 25 |
| | | 0 |

So, 40 m 25 sec ÷ 5
= 8 m 5 sec.

(b)

| | m | sec |
|---|---|---|
| 8 ) | 48 | 64 ( 6 hrs 8 m |
| | 48 ↓ | ↓ |
| | 00 | 64 |
| | | − 64 |
| | | 0 |

So, 48 hrs. 64 m ÷ 8
= 6 hrs. 8 m

(c)

| | m | m | sec |
|---|---|---|---|
| 13 ) | 91 | 52 | 39 ( 7h 4m 3s |
| | 91 ↓ | ↓ | ↓ |
| | 00 | 52 | |
| | | − 52 | ↓ |
| | | 00 | 39 |
| | | | − 39 |
| | | | 0 |

So, 91 hrs. 52 m 39 sec ÷ 13
= 7 hrs. 4 m 3 sec.

(d)

| | hrs | m |
|---|---|---|
| 6 ) | 60 | 12 ( 10 hrs 2 m |
| | 60 ↓ | ↓ |
| | 00 | 12 |
| | | − 12 |
| | | 0 |

So, 60 hrs. 12 m ÷ 6
= 10 hrs. 2 m

(e)

| | hrs | m | sec |
|---|---|---|---|
| 14 ) | 28 | 42 | 28 ( 2h 3m 2s |
| | 28 ↓ | ↓ | ↓ |
| | 00 | 42 | |
| | | − 42 | ↓ |
| | | 00 | 28 |
| | | | − 28 |
| | | | 0 |

So, 28 hrs. 42 m 28 sec ÷ 14
= 2 hrs. 3 m 2 sec

(f)

| | hrs | m | sec |
|---|---|---|---|
| 9 ) | 72 | 36 | 18 ( 8h 4m 2s |
| | 72 ↓ | ↓ | ↓ |
| | 00 | 36 | |
| | | − 36 | ↓ |
| | | 00 | 18 |
| | | | − 18 |
| | | | 0 |

So, 72 hrs. 36 m 18 sec ÷ 9
= 8 hrs. 4 m 2 sec

(g)
| | hrs | m | sec | |
|---|---|---|---|---|
| 7 ) | 8 4 | 5 6 | 4 9 | ( 12h 8m 7s |
| | 7 | ↓ | ↓ | |
| | 1 4 | 5 6 | | |
| | | – 5 6 | | |
| | | 0 0 | 4 9 | |
| | | | – 4 9 | |
| | | | 0 | |

(h)
| | hrs | m | sec | |
|---|---|---|---|---|
| 5 ) | 1 5 | 3 5 | 3 0 | ( 3h 7m 6s |
| | 1 5 | ↓ | ↓ | |
| | 0 0 | 3 5 | | |
| | | – 3 5 | | |
| | | 0 0 | 3 0 | |
| | | | – 3 0 | |
| | | | 0 | |

**3.** (a) Time taken by Virat to reach Dehradun

| hrs | m |
|---|---|
| 4 | 3 0 |
| + 3 | 1 5 |
| 7 | 4 5 |

(b) Do it yourself.

(c) 2 hrs 1 5 m

× 5

32 hrs 2 5 m

Hence, 32 hrs. 25 m taken in classes in 15 days by Anuj.

(d) He jog every book

| hrs | m |
|---|---|
| 6 | 2 5 |
| – 2 | 3 0 |
| 3 | 9 5 |

(e) Do it yourself.

## Chapter-14 (Geometry)

Do it yourself.

## Chapter-15 (Perimeter and Area)

### Exercise Time - 15.1

**1.** (a) Perimeter = Sum of all sides
= (5 + 3 + 7 + 6 + 2) cm = 23 cm

(b) Perimeter = Sum of all sides
= (7 + 3 + 2 + 3 + 7 + 5 + 4) cm
= 31 cm

**2.** (a) Perimeter of triangle
= (13 + 6 + 14) cm = 33 cm

(b) Perimeter of triangle
= Sum of all side
= (19.6 + 14.4 + 16.8) cm
= 50.8 cm

(c) Perimeter of triangle
= Sum of all side
= (15.3 + 23 + 14.6) cm = 52.9 cm

(d) Perimeter of triangle
= Sum of all side
= (29 + 9 + 28) cm = 66 cm

**3.** (a) Perimeter of square
= sum of all side or 4 × side
= 4 × 24 = 96 cm

(b) Perimeter of square = 4 × side
= 4 × 218 cm = 872 cm

(c) Perimeter of square = 4 × side
= 4 × 14 cm = 56 cm
Perimeter of square
= 4 × 154.6 cm = 618.4 cm

**4.** (a) Perimeter of rectangle
= 2 (l + b) = 2 (28 + 14) cm
= 2 × 42 cm = 168 cm

(b) Perimeter of rectangle
= 2 (l + b) = 2 (80 + 40) cm
= 2 × 120 cm = 240 cm

(c) Perimeter of rectangle
= 2 (l + b) = 2 (8.4 + 4.2) m
= 2 × 12.6 m = 25.2 m

(d) Perimeter of rectangle
= 2 (l + b) cm = 2 (17 + 8) cm
= 2 × 25 cm = 50 cm

## Exercise Time - 15.2

**1.** (a) Area of rectangle = $l \times b$
$= (6 \times 5)$ cm = 30 cm

(b) Area of rectangle = $l \times b$
$= (8 \times 4)$ cm = 32 cm

(c) Area of rectangle = $l \times b$
$= (15 \times 7)$ km = 105 km

(d) Area of rectangle = $l \times b$
$= (25 \times 10)$ cm = 250 cm

**2.** (a) Area of square = side × side
$= (15 \times 15)$ m = 225 m

(b) Area of square = side × side
$= 912 \times 12)$ cm = 144 cm

(c) Area of square = side × side
$= (9 \times 9)$ m = 81 cm

(d) Area of square = side × side
$= (24 \times 24)$ cm = 576 cm

**3.** (a) Length of box = 14 cm
Breadth of box = 6 cm
So, the are of rectangle box
$= l \times b = 14 \times 6 = 84$ cm

(b) Length of cricket pitch = 13 m
Breadth (b) of cricket pitch = 6 m,
So, Area of cricket pitch
$= l \times b = (13 \times 6)$ m = 78 m

(c) Length (l) of rectangular field
= 80 m
Breadth (b) of rectangular field
= 28 m
So, Distance cover by boy in 4 times = $(l \times b) \times 4$
$= (80 \times 28) \times 4 = 2240 \times 4$
= 8960 m

(d) Area of square field = side × side
$= (148 \times 148)$ m = 21904 m

(e) Length (l) of a rectangular plot
= 105 m
Breath (b) of a rectangular plot
= 48 m
So, Total area of the wall of plot = $l \times b = (105 \times 48)$ m = 5040 m

(f) Length of square plot = 5 m
So, area of square plot
= sid × side = $(5 \times 5)$ m = 25 m

## Chapter-16 (Symmetry)

### Exercise Time - 16.1

Do it yourself.

## Chapter-17 (Tangrams and Tessellation)

Do it yourself.

## Chapter-18 (Number Patterns)

**1.** (a) 1, 2, 4, 8, 16, 32, 64, 128, 256

(b) 3, 9, 27, 81, 243, 729, 2187

(c) 5, 25, 125, 625, 3125, 15625, 78125

(d) 5, 15, 25, 34, 45, 55, 65

(e) 24, 48, 96, 192, 384, 768, 1536

(f) 10, 100, 1000, 10,000, 100,000, 1000000, 10000000

**2.** Do it yourself.

**3, 4.** Do it yourself.

## Chapter-19 (The Calender)

### Exercise Time - 19.1

**1, 2.** Do it yourself.

**3.** One month February
(28 days or 29 days)

**4.** Age of Nitin = 9 years 3 months
His mother age
= 40 years 7 months
So, When Nitin was lern then his mother age

**5.** My age at starting teaching = 22 years 6 months
Now my age = 44 years 3 months
So, the time of my teaching carrer is

**6, 7, 8.** Do it yourself.

## Chapter-20 (Pictorial Representation of Data)

Do it yourself.