



## SOLUTION MAGICAL MATHS

4

1.

Revision

### EXERCISE 1.1

1. (i) 429            (ii) 75            (iii) 202            (iv) 670            (v) 65
2. (i) Nine hundred four            (ii) Five hundred ninety five  
(iii) Eighty            (iv) Ninety nine  
(v) Seven hundred            (vi) Eight hundred ninety
3. (i) 40, 50, 60, 70, 80            (ii) 26, 31, 36, 41, 46  
(iii) 120, 130, 140, 150, 160            (iv) 420, 415, 410, 405, 400  
(v) 357, 367, 377, 387, 397
4. 259, 261, 263, 265, 267, 269
5. 255, 260, 265, 270, 275, 280
6. 337, 347, 357, 367
7. 315, 415, 515, 615, 715, 815
8. (i) <            (ii) >            (iii) >            (iv) <            (v) >  
(vi) <            (vii) <            (viii) <            (ix) >            (x) >
9. (i) 960, 906, 690, 617, 609, 69            (ii) 643, 634, 463, 436, 364, 346  
(iii) 540, 504, 450, 405, 64, 45
10. (i) 55, 500, 505, 550, 555            (ii) 19, 90, 91, 109, 190, 901  
(iii) 378, 387, 738, 783, 837, 873
11. (i) 9            (ii) 999            (iii) 10            (iv) 100
12. (i) 205            (ii) 888            (iii) 555            (iv) 440
13. Add the following :  
(i) 118            (ii) 59            (iii) 877            (iv) 587  
(v) 996            (vi) 1000            (vii) 1004            (viii) 522

14.

$$\begin{array}{r} \text{(i)} \quad 444 \\ \quad 88 \\ + 333 \\ \hline 865 \end{array}$$

$$\begin{array}{r} \text{(ii)} \quad 403 \\ \quad 270 \\ + 77 \\ \hline 750 \end{array}$$

$$\begin{array}{r} \text{(iii)} \quad 439 \\ \quad 251 \\ + 81 \\ \hline 771 \end{array}$$

$$\begin{array}{r} \text{(iv)} \quad 564 \\ \quad 135 \\ + 63 \\ \hline 762 \end{array}$$

$$\begin{array}{r} \text{(v)} \quad 348 \\ \quad 362 \\ + 46 \\ \hline 756 \end{array}$$

$$\begin{array}{r} \text{(vi)} \quad 378 \\ \quad 36 \\ + 13 \\ \hline 427 \end{array}$$

$$\begin{array}{r} \text{(vii)} \quad 723 \\ \quad 98 \\ + 147 \\ \hline 968 \end{array}$$

$$\begin{array}{r} \text{(viii)} \quad 19 \\ \quad 811 \\ + 204 \\ \hline 1034 \end{array}$$

$$\begin{array}{r} \text{(ix)} \quad 999 \\ \quad 666 \\ + 333 \\ \hline 1998 \end{array}$$

15. (i) 27  
(v) 381

(ii) 11  
(vi) 323

(iii) 31  
(viii) 310

(iv) 333  
(viii) 301

16. (i) 
$$\begin{array}{r} 493 \\ - 65 \\ \hline 428 \end{array}$$

(ii) 
$$\begin{array}{r} 374 \\ - 42 \\ \hline 332 \end{array}$$

(iii) 
$$\begin{array}{r} 532 \\ - 479 \\ \hline 53 \end{array}$$

(iv) 
$$\begin{array}{r} \textcircled{1} \\ 202 \\ - 187 \\ \hline 15 \end{array}$$

(v) 
$$\begin{array}{r} 500 \\ - 196 \\ \hline 304 \end{array}$$

17. (i) 
$$\begin{array}{r} 625 \\ - 386 \\ \hline 239 \end{array}$$

(ii) 
$$\begin{array}{r} 803 \\ - 575 \\ \hline 228 \end{array}$$

(iii) 
$$\begin{array}{r} \textcircled{1} \\ 821 \\ - 349 \\ \hline 472 \end{array}$$

(iv) 
$$\begin{array}{r} 600 \\ - 509 \\ \hline 91 \end{array}$$

(v) 
$$\begin{array}{r} 929 \\ - 337 \\ \hline 592 \end{array}$$

(v) 
$$\begin{array}{r} 300 \\ - 163 \\ \hline 137 \end{array}$$

18. Fill in the blanks :

(i)  $2 + 2 + 2 + 2 = 2 \times 4$

(ii)  $5 + 5 + 5 + 5 + 5 = 5 \times 5$

(iii)  $7 + 7 + 7 + 7 + 7 + 7 = 7 \times 6$

(iv)  $10 + 10 + 10 + 10 = 10 \times 4$

(v)  $9 = 9 \times 1$

19. Fill in the blanks :

(i) 28

(ii) 49

(iii) 15

(iv) 40

(v) 56

(vi) 45

(vii) 90

(viii) 64

(ix) 36

20. Put the appropriate sign + or  $\times$  in each box :

(i)  $\times$

(ii)  $\times$

(iii) +

(iv)  $\times$

(v) +

(vi)  $\times$

(vii) 5

(viii) 9

(ix) 8

21. Multiply :

(i) 
$$\begin{array}{r} \textcircled{1} \\ 82 \\ \times \quad 5 \\ \hline 410 \end{array}$$

(ii) 
$$\begin{array}{r} \textcircled{1} \\ 102 \\ \times \quad 8 \\ \hline 816 \end{array}$$

(iii) 
$$\begin{array}{r} \textcircled{5} \\ 26 \\ \times \quad 9 \\ \hline 234 \end{array}$$

(iv) 
$$\begin{array}{r} \textcircled{1} \textcircled{3} \\ 237 \\ \times \quad 5 \\ \hline 1185 \end{array}$$

22. A month has days = 30

$$\therefore \text{Number of days in 5 months} = 30 \times 5 \\ = 150 \text{ Ans.}$$

23. One note book has pages = 68

$$\therefore \text{Number of pages in 8 note books} = 68 \times 8 = 544 \text{ Ans.}$$

24. Number of boys in a school = 647

Number of girls in a school = 218

$$\text{Total number of children in the school} = 647 + 218 = 865 \text{ Ans.}$$

25. 1 bus has seats = 52

$$\therefore \text{Number of seats in 6 buses} = 52 \times 6 \\ = 312 \text{ Ans.}$$

26. Gurpreet earned last week = ₹ 1091

She spent last week = ₹ 585

$$\therefore \text{She saved } 1091 - 585 = ₹ 506$$

27. Divide :

$$(i) \begin{array}{r} 3 \overline{)21} \left( 7 \\ \underline{21} \\ \times \end{array} \quad (ii) \begin{array}{r} 8 \overline{)48} \left( 6 \\ \underline{48} \\ \times \end{array} \quad (iii) \begin{array}{r} 5 \overline{)50} \left( 10 \\ \underline{50} \\ \times \end{array} \quad (iv) \begin{array}{r} 6 \overline{)36} \left( 6 \\ \underline{36} \\ \times \end{array}$$

$$(v) \begin{array}{r} 9 \overline{)45} \left( 5 \\ \underline{45} \\ \times \end{array} \quad (vi) \begin{array}{r} 7 \overline{)35} \left( 5 \\ \underline{35} \\ \times \end{array} \quad (vii) \begin{array}{r} 2 \overline{)10} \left( 5 \\ \underline{10} \\ \times \end{array} \quad (viii) \begin{array}{r} 4 \overline{)28} \left( 7 \\ \underline{28} \\ \times \end{array}$$

28. Divide and find the quotient :

$$(i) \begin{array}{r} 7 \overline{)42} \left( 6 \\ \underline{42} \\ \times \end{array} \quad (ii) \begin{array}{r} 3 \overline{)27} \left( 9 \\ \underline{27} \\ \times \end{array} \quad (iii) \begin{array}{r} 8 \overline{)64} \left( 8 \\ \underline{64} \\ \times \end{array} \quad (iv) \begin{array}{r} 9 \overline{)81} \left( 9 \\ \underline{81} \\ \times \end{array}$$

$$(v) \begin{array}{r} 5 \overline{)20} \left( 4 \\ \underline{20} \\ \times \end{array} \quad (vi) \begin{array}{r} 4 \overline{)32} \left( 8 \\ \underline{32} \\ \times \end{array} \quad (vii) \begin{array}{r} 10 \overline{)60} \left( 6 \\ \underline{60} \\ \times \end{array} \quad (viii) \begin{array}{r} 2 \overline{)16} \left( 8 \\ \underline{16} \\ \times \end{array}$$

29. Divide by the long method and write the quotient and remainder in each case :

$$(i) \begin{array}{r} 7 \overline{)63} \left( 9 \\ \underline{63} \\ \times \end{array} \quad (ii) \begin{array}{r} 8 \overline{)88} \left( 11 \\ \underline{88} \\ \times \end{array} \quad (iii) \begin{array}{r} 5 \overline{)70} \left( 14 \\ \underline{5} \\ 20 \\ \underline{20} \\ \times \end{array} \quad (iv) \begin{array}{r} 4 \overline{)440} \left( 110 \\ \underline{4} \\ \times 4 \\ \underline{4} \\ \times 0 \\ \underline{0} \\ \times \end{array}$$

$$(v) \begin{array}{r} 4 \overline{)29} \left( 7 \\ \underline{28} \\ 1 \\ \text{Q} = 7 \\ \text{R} = 1 \end{array} \quad (vi) \begin{array}{r} 9 \overline{)38} \left( 4 \\ \underline{36} \\ 2 \\ \text{Q} = 4 \\ \text{R} = 2 \end{array} \quad (vii) \begin{array}{r} 3 \overline{)980} \left( 326 \\ \underline{9} \\ \times 8 \\ \underline{6} \\ 20 \\ \underline{18} \\ 2 \\ \text{Q} = 326 \\ \text{R} = 2 \end{array} \quad (viii) \begin{array}{r} 10 \overline{)83} \left( 8 \\ \underline{80} \\ 3 \\ \text{Q} = 8 \\ \text{R} = 3 \end{array}$$

30. Do yourself.

31. Fill in the blanks :

- (i) 28 (ii) 31 (iii) December  
(iv) January (v) 31 days (vi) 31 days

32. Fill in the blanks :

- (i) 1 (ii) 1 (iii) 1  
(iv) 1 (v) 10 (vi) 5

33. Add :

(i)	$\begin{array}{r} 25\text{ P} \\ 70\text{ P} \\ + 18\text{ P} \\ \hline 113\text{ P} \end{array}$	(ii)	$\begin{array}{r} ₹ 120 \\ ₹ 80 \\ ₹ + 45 \\ \hline ₹ 245 \end{array}$	(iii)	$\begin{array}{r} 730\text{ m} \\ 125\text{ m} \\ + 85\text{ m} \\ \hline 940\text{ m} \end{array}$	(iv)	$\begin{array}{r} 82\text{ kg} \\ + 7\text{ kg} \\ \hline 89\text{ kg} \end{array}$	(v)	$\begin{array}{r} 312\text{ kg} \\ + 80\text{ kg} \\ \hline 392\text{ kg} \end{array}$
-----	---	------	--	-------	---	------	---	-----	--

(vi)	$\begin{array}{r} 300\text{ g} \\ 275\text{ g} \\ + 150\text{ g} \\ \hline 725\text{ g} \end{array}$	(vii)	$\begin{array}{r} 800\text{ g} \\ 100\text{ g} \\ + 75\text{ g} \\ \hline 975\text{ g} \end{array}$	(viii)	$\begin{array}{r} \textcircled{1} \\ 22\text{ L} \\ 105\text{ L} \\ + 34\text{ L} \\ \hline 161\text{ L} \end{array}$	(ix)	$\begin{array}{r} \textcircled{1}\textcircled{1} \\ 110\text{ cm} \\ 95\text{ cm} \\ + 25\text{ cm} \\ \hline 230\text{ cm} \end{array}$	(x)	$\begin{array}{r} 225\text{ ml} \\ 170\text{ ml} \\ + 185\text{ ml} \\ \hline 580\text{ ml} \end{array}$
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34. Find the difference between :

(i)	$\begin{array}{r} 430\text{ ml} \\ - 55\text{ ml} \\ \hline 375\text{ ml} \end{array}$	(ii)	$\begin{array}{r} 250\text{ L} \\ - 80\text{ L} \\ \hline 170\text{ L} \end{array}$	(iii)	$\begin{array}{r} 67\text{ kg} \\ - 30\text{ kg} \\ \hline 37\text{ kg} \end{array}$	(iv)	$\begin{array}{r} 870\text{ g} \\ - 435\text{ g} \\ \hline 435\text{ g} \end{array}$
(v)	$\begin{array}{r} 94\text{ m} \\ - 36\text{ m} \\ \hline 58\text{ m} \end{array}$	(vi)	$\begin{array}{r} 70\text{ cm} \\ - 28\text{ cm} \\ \hline 42\text{ cm} \end{array}$	(vii)	$\begin{array}{r} ₹ 29-90\text{ P} \\ - ₹ 15-80\text{ P} \\ \hline ₹ 14-10\text{ P} \end{array}$	(viii)	$\begin{array}{r} ₹ 907-35\text{ P} \\ - ₹ 279-10\text{ P} \\ \hline ₹ 628-25\text{ P} \end{array}$

35. Cost of 4 kg grapes = ₹ 100  
∴ Cost of 1 kg grapes =  $100 \div 4$   
= ₹ 25 **Ans.**

36. Cost of 9 note-books = ₹ 72  
∴ Cost of 1 note-book =  $72 \div 9$   
= ₹ 8 **Ans.**

37. (i) State, blackboard (ii) Ring, bangle  
(iii) Sides of a pyramid, set squares (iv) Ball, marble  
(v) Brick, soapcake (vi) LPG cylinder, drum  
(vii) Ice cream, Joker's cap

## 2.

## Numeration

### Exercise 2.1

#### 1. Write the names for the following numerals :

- (a) Two thousand two hundred twenty two
- (b) One thousand four hundred forty four
- (c) Two thousand six hundred forty
- (d) One thousand six hundred forty six
- (e) Four thousand four hundred seventy two
- (f) Five thousand three hundred nineteen
- (g) Five thousand fifty
- (h) Four thousand six hundred
- (i) Seven thousand five hundred fifty five
- (j) Seven thousand seven hundred eighty nine
- (k) Eight thousand eight hundred nine
- (l) Six thousand four hundred fifty
- (m) Five thousand three hundred five
- (n) Four thousand sixty
- (o) Eight thousand six hundred fifty seven
- (p) Nine thousand nine hundred ninety nine

### Exercise 2.2

#### 1. Write the numerals for the number names :

- |          |          |          |          |
|----------|----------|----------|----------|
| (a) 4304 | (b) 1456 | (c) 3423 | (d) 2123 |
| (e) 7920 | (f) 3721 | (g) 8560 | (h) 6455 |
| (i) 9481 | (j) 3426 | (k) 4802 | (l) 6886 |
| (m) 9468 | (n) 8220 | (o) 3089 | (p) 7890 |
| (q) 5755 | (r) 9090 | (s) 2356 | (t) 5504 |

### Exercise 2.3

#### 1. Write the numerals for the number names :

- |          |          |           |           |
|----------|----------|-----------|-----------|
| (i) 10   | (ii) 999 | (iii) 100 | (iv) 1000 |
| (v) 9999 | (vi) 99  |           |           |

#### 2. Write next four numbers in counting order :

- |                              |                             |
|------------------------------|-----------------------------|
| (i) 1281, 1282, 1283, 1284   | (ii) 6560, 6561, 6562, 6563 |
| (iii) 4937, 4938, 4939, 4940 | (iv) 5212, 5213, 5214, 5215 |
| (v) 2896, 2897, 2898, 2899   | (vi) 7377, 7378, 7379, 7380 |

**3. Write next four numbers in reverse counting order :**

(ii) 2992, 2991, 2990, 2989      (iii) 7402, 7401, 7400, 7399

(iv) 6363, 6362, 6361, 6360      (v) 4904, 4903, 4902, 4901

(vi) 8642, 8641, 8640, 8639      (vii) 6682, 6681, 6680, 6679

**4. Write the successor of each number :**

(i) 2479      (ii) 1600      (iii) 6000

**5. Write the predecessor of each number :**

(i) 3359      (ii) 3699      (iii) 6999

**Exercise 2.4**

**1. Write the numerals for the following number names :**

(i) 1204      (ii) 5242      (iii) 8084      (iv) 9923      (v) 6420

**2. Write the numbers between :**

(i) 4003, 4004, 4005      (ii) 4483, 4484, 4485

(iii) 3870, 3871, 3872

**3. For each of the following write the next five numebrs :**

(i) 1583, 1584, 1585, 1586, 1587      (ii) 3896, 3897, 3898, 3899, 3900

(iii) 6683, 6684, 6685, 6686, 6687

**4. Counting by fives, write numbers from :**

(i) 4440, 4445, 4450, 4455, 4460      (ii) 7730, 7735, 7740, 7745, 7750

(iii) 8877, 8882, 8887, 8892, 8897

**5. Counting by tens write numbers between :**

(i) 8552, 8562, 8572, 8582      (ii) 2510, 2520, 2530, 2540

(iii) 1460, 1470, 1480, 1490

**6. Write the next 3 numbers in the same order :**

(i) 2543, 2547, 2551      (ii) 9314, 9317, 9320

(iii) 6958, 6968, 6978

**7. Counting by thousands write numerals, starting from :**

(i) 6505, 7505, 8505, 9505      (ii) 9090, 10090, 11090, 12090

(iii) 3640, 4640, 5640, 6640

**Exercise 2.5**

**1. Write the place value of each digit in 4344.**

**Ans.** 4000, 300, 40, 4

**2. Write the place value of coloured digits :**

(i) 9      (ii) 10      (iii) 6000      (iv) 800      (v) 5      (vi) 600

**3.** (i) 6362 = 6000 – 60 = 5940

(ii) 5550 = 5000 + 500 + 50

= 5550

**4.** (i) False      (ii) True      (iii) False      (iv) True

5. (i) 2543                      (ii) 4216                      (iii) 7638                      (iv) 6515  
 6. (i) (b) 9999                      (ii) (d) 9990                      (iii) (a) 9909                      (iv) (c) 9099

**Exercise 2.6**

1. Write the following numbers in the expanded form :

- (i)  $2000 + 600 + 20 + 4$                       (ii)  $6000 + 700 + 0 + 9$   
 (iii)  $8000 + 700 + 10 + 6$                       (iv)  $6000 + 400 + 30 + 0$   
 (v)  $4000 + 400 + 20 + 3$                       (vi)  $4000 + 800 + 60 + 9$

2. Write the short form of the following :

- (i) 4222                      (ii) 3303                      (iii) 4687                      (iv) 8945  
 (v) 9600                      (vi) 7008

3. Fill in the boxes :

- (i) 3, 4, 4, 9                      (ii) 4, 8, 9, 1                      (iii) 4, 0, 1, 6                      (iv) 3, 8, 7, 9  
 (v) 9, 9, 9, 9                      (vi) 4, 3, 9, 2                      (vii) 2, 3, 4, 2

**Exercise 2.7**

1. Fill in the boxes using >, < or =.

- (i) <                      (ii) =                      (iii) >                      (iv) >  
 (v) >                      (vi) =                      (vii) >                      (viii) >  
 (ix) >                      (x) >                      (xi) =

2. Encircle the greatest number :

- (i) 8815                      (ii) 8805                      (iii) 9122                      (iv) 9728                      (v) 9915

3. Encircle the smallest number :

- (i) 1850                      (ii) 5323                      (iii) 2840                      (iv) 1823                      (v) 5315

4. Write the greatest 4-digit number (without repeating a digit) from the following four digits in the boxes :

- (i) 8210                      (ii) 8765                      (iii) 6540                      (iv) 7430

5. Write the smallest 4-digit number (using each digit only once) from the following four digits in the boxes :

- (i) 2347                      (ii) 1379                      (iii) 2345                      (iv) 1789

**Exercise 2.8**

1. Write the successor of each of the following numbers in boxes :

- (i) 3037                      (ii) 2040                      (iii) 9060                      (iv) 6852  
 (v) 7047                      (vi) 7090

2. Write the predecessor of each of the following numbers in boxes :

- (i) 2223                      (ii) 3466                      (iii) 2872                      (iv) 6997  
 (v) 4112                      (vi) 2518

3. Answer the following questions :

- (i) Smallest 4-digit No. = 1000; Successor = 1001

- (ii) Largest 4-digit No. = 9999; Successor = 10000  
 (iii) Smallest 4-digit No. = 1000; Predecessor = 999  
 (iv) Largest 4-digit No. = 9999; Predecessor = 9998
4. Rewrite the following numbers in ascending order :  
 (i) 378, 2472, 5281, 8354, 9513 (ii) 79, 314, 2118, 2885, 9392  
 (iii) 53, 211, 2295, 4718, 7823 (iv) 28, 621, 1485, 2085, 4243  
 (v) 513, 1902, 2190, 4025, 6083
5. Rewrite the following numbers in descending order :  
 (i) 6890, 4483, 2183, 533, 73 (ii) 9320, 7814, 1485, 395, 28  
 (iii) 6874, 4218, 2151, 925, 95 (iv) 9309, 7125, 5411, 982, 128  
 (v) 9823, 8235, 7109, 6852, 4808
6. Write the smallest and the greatest 2-digit number (without repeating a digit) from the following digits :  
 (i) 24, 74 (ii) 37, 97 (iii) 34, 74

## 3. Regional and Roman Numerals

### Exercise 3.1

1. Write the following numbers :  
 (i) 57 (ii) 39 (iii) 245 (iv) 4025
2. With the help of the table of numerals used in different regions, write the following numbers using Urdu, Punjabi, Gujarati and Bengali.  
 Do yourself.
3. Write the Hindu-Arabic numerals for the following Roman Numerals :  
 (i) 4 (ii) 9 (iii) 14 (iv) 12  
 (v) 19 (vi) 35 (vii) 24 (viii) 29
4. Write the following in Roman Numerals :  
 (i) VII (ii) VIII (iii) XVI (iv) XII  
 (v) XXIV (vi) XX (vii) XXXV (viii) LXIV

## 4. Addition

- | <p>1. (i)</p> <table style="margin-left: 20px; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Th</th> <th style="text-align: left;">H</th> <th style="text-align: left;">T</th> <th style="text-align: left;">O</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td style="text-align: center;">①</td> <td></td> </tr> <tr> <td>4</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black; padding-top: 5px;">+ 3 2 1 1</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black; padding-top: 5px;">9 7 9 0</td> </tr> </tbody> </table> | Th | H | T | O |   |   | ① |   | 4 | 2 | 3 | 4 | 2         | 3 | 4 | 5 | + 3 2 1 1 |  |  |  | 9 7 9 0   |    |   |   | <p>(ii)</p> <table style="margin-left: 20px; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Th</th> <th style="text-align: left;">H</th> <th style="text-align: left;">T</th> <th style="text-align: left;">O</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>3</td> <td>5</td> <td>4</td> </tr> <tr> <td>3</td> <td>1</td> <td>3</td> <td>2</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black; padding-top: 5px;">+ 4 4 1 3</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black; padding-top: 5px;">9 8 9 9</td> </tr> </tbody> </table> | Th | H | T | O | 2 | 3 | 5 | 4 | 3         | 1 | 3 | 2 | + 4 4 1 3 |  |  |  | 9 8 9 9  |    |   |   | <p>(iii)</p> <table style="margin-left: 20px; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Th</th> <th style="text-align: left;">H</th> <th style="text-align: left;">T</th> <th style="text-align: left;">O</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>5</td> <td>5</td> <td>5</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black; padding-top: 5px;">+ 3 3 3 3</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black; padding-top: 5px;">9 9 9 9</td> </tr> </tbody> </table> | Th | H | T | O | 5 | 5 | 5 | 5 | 1         | 1 | 1 | 1 | + 3 3 3 3 |  |  |  | 9 9 9 9 |  |  |  |
|--|----|---|---|---|---|---|---|---|---|---|---|---|-----------|---|---|---|-----------|--|--|--|---|----|---|---|--|----|---|---|---|---|---|---|---|-----------|---|---|---|-----------|--|--|--|--|----|---|---|---|----|---|---|---|---|---|---|---|-----------|---|---|---|-----------|--|--|--|---------|--|--|--|
| Th   | H  | T | O |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
|  |    | ① |   |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 4  | 2  | 3 | 4 |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 2  | 3  | 4 | 5 |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| + 3 2 1 1  |    |   |   |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 9 7 9 0  |    |   |   |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| Th   | H  | T | O |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 2  | 3  | 5 | 4 |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 3  | 1  | 3 | 2 |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| + 4 4 1 3  |    |   |   |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 9 8 9 9  |    |   |   |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| Th   | H  | T | O |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 5  | 5  | 5 | 5 |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 1  | 1  | 1 | 1 |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| + 3 3 3 3  |    |   |   |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 9 9 9 9  |    |   |   |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| <p>(iv)</p> <table style="margin-left: 20px; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Th</th> <th style="text-align: left;">H</th> <th style="text-align: left;">T</th> <th style="text-align: left;">O</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>4</td> <td>5</td> <td>3</td> </tr> <tr> <td>2</td> <td>2</td> <td>1</td> <td>1</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black; padding-top: 5px;">+ 1 3 3 1</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black; padding-top: 5px;">9 9 9 5</td> </tr> </tbody> </table>   | Th | H | T | O | 6 | 4 | 5 | 3 | 2 | 2 | 1 | 1 | + 1 3 3 1 |   |   |   | 9 9 9 5   |  |  |  | <p>(v)</p> <table style="margin-left: 20px; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Th</th> <th style="text-align: left;">H</th> <th style="text-align: left;">T</th> <th style="text-align: left;">O</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>2</td> <td>2</td> <td>3</td> </tr> <tr> <td>2</td> <td>3</td> <td>3</td> <td>2</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black; padding-top: 5px;">+ 4 4 4 4</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black; padding-top: 5px;">9 9 9 9</td> </tr> </tbody> </table> | Th | H | T | O  | 3  | 2 | 2 | 3 | 2 | 3 | 3 | 2 | + 4 4 4 4 |   |   |   | 9 9 9 9   |  |  |  | <p>(vi)</p> <table style="margin-left: 20px; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Th</th> <th style="text-align: left;">H</th> <th style="text-align: left;">T</th> <th style="text-align: left;">O</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>5</td> <td>4</td> <td>6</td> </tr> <tr> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black; padding-top: 5px;">+ 2 2 2 1</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black; padding-top: 5px;">7 9 8 9</td> </tr> </tbody> </table> | Th | H | T | O   | 3  | 5 | 4 | 6 | 2 | 2 | 2 | 2 | + 2 2 2 1 |   |   |   | 7 9 8 9   |  |  |  |         |  |  |  |
| Th   | H  | T | O |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 6  | 4  | 5 | 3 |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 2  | 2  | 1 | 1 |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| + 1 3 3 1  |    |   |   |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 9 9 9 5  |    |   |   |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| Th   | H  | T | O |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 3  | 2  | 2 | 3 |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 2  | 3  | 3 | 2 |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| + 4 4 4 4  |    |   |   |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 9 9 9 9  |    |   |   |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| Th   | H  | T | O |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 3  | 5  | 4 | 6 |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 2  | 2  | 2 | 2 |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| + 2 2 2 1  |    |   |   |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |
| 7 9 8 9  |    |   |   |   |   |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |   |    |   |   |  |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |  |    |   |   |   |    |   |   |   |   |   |   |   |           |   |   |   |           |  |  |  |         |  |  |  |



**2. Arrange in columns and add the following :**

(i) $\textcircled{1}$ $\begin{array}{r} 3\ 1\ 4\ 5 \\ 2\ 0\ 0\ 4 \\ +\ 3\ 0\ 0\ 3 \\ \hline 8\ 1\ 5\ 2 \end{array}$	(ii) $\textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 1\ 2\ 3\ 4 \\ 2\ 2\ 1\ 8 \\ +\ 1\ 6\ 2\ 2 \\ \hline 5\ 0\ 7\ 4 \end{array}$	(iii) $\textcircled{1}\ \textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 1\ 7\ 2\ 3 \\ 1\ 6\ 2\ 8 \\ +\ 4\ 4\ 6\ 0 \\ \hline 7\ 8\ 1\ 1 \end{array}$	(iv) $\textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 2\ 1\ 8\ 1 \\ 4\ 6\ 7\ 2 \\ +\ 1\ 9\ 3\ 2 \\ \hline 8\ 7\ 8\ 5 \end{array}$
--	--	--	--

**3. Do, without actual addition :**

- (i) 580, 5800      (ii) 135, 1350

**Exercise 4.1**

**1. Add :**

(i) $\textcircled{1}$ $\begin{array}{r} 1\ 1\ 2\ 3\ 4 \\ +\ 1\ 3\ 1\ 2\ 3 \\ \hline 2\ 4\ 3\ 5\ 7 \end{array}$	(ii) $\textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 3\ 2\ 5\ 6\ 8 \\ +\ 1\ 2\ 2\ 3\ 1 \\ \hline 4\ 4\ 7\ 9\ 9 \end{array}$	(iii) $\textcircled{1}\ \textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 2\ 6\ 5\ 4\ 2\ 2 \\ +\ 2\ 3\ 2\ 5\ 6\ 5 \\ \hline 4\ 9\ 7\ 9\ 8\ 7 \end{array}$	(iv) $\textcircled{1}\ \textcircled{1}\ \textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 5\ 5\ 5\ 5\ 5 \\ +\ 2\ 3\ 4\ 3\ 1 \\ \hline 7\ 8\ 9\ 8\ 6 \end{array}$
(v) $\textcircled{1}$ $\begin{array}{r} 5\ 4\ 5\ 4\ 3\ 1 \\ 1\ 3\ 1\ 1\ 3\ 1 \\ 1\ 1\ 3\ 3\ 1 \\ +\ 1\ 1\ 2\ 0\ 1 \\ \hline 6\ 9\ 9\ 0\ 9\ 4 \end{array}$	(vi) $\textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 4\ 3\ 5\ 4\ 3\ 5 \\ 3\ 0\ 2\ 0\ 3 \\ 2\ 2\ 2\ 0 \\ +\ 1\ 1\ 1 \\ \hline 4\ 6\ 7\ 9\ 6\ 9 \end{array}$	(vii) $\textcircled{1}\ \textcircled{1}\ \textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 4\ 4\ 4\ 4\ 4\ 4 \\ 3\ 3\ 3\ 3\ 3\ 3 \\ +\ 2\ 2\ 2\ 2\ 2\ 2 \\ \hline 9\ 9\ 9\ 9\ 9\ 9 \end{array}$	(viii) $\textcircled{1}\ \textcircled{1}\ \textcircled{1}\ \textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 2\ 2\ 2\ 2\ 2\ 2 \\ 3\ 3\ 3\ 3\ 3 \\ 3\ 3\ 3\ 3\ 3 \\ +\ 1\ 1\ 1\ 1\ 1 \\ \hline 2\ 8\ 9\ 9\ 9\ 9 \end{array}$

**2. Arrange the following in columns and add them :**

(i) $\textcircled{1}$ $\begin{array}{r} 3\ 9\ 1\ 2\ 0 \\ +\ 1\ 2\ 3\ 1\ 0 \\ \hline 5\ 1\ 4\ 3\ 0 \end{array}$	(ii) $\textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 4\ 1\ 2\ 2\ 1 \\ +\ 3\ 1\ 2\ 2\ 1 \\ \hline 7\ 2\ 4\ 4\ 2 \end{array}$	(iii) $\textcircled{1}\ \textcircled{1}\ \textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 3\ 1\ 5\ 1\ 4\ 7 \\ 4\ 2\ 1\ 4\ 1\ 1 \\ +\ 3\ 5\ 5\ 5 \\ \hline 7\ 4\ 0\ 1\ 1\ 3 \end{array}$	(iv) $\textcircled{1}\ \textcircled{1}\ \textcircled{1}\ \textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 1\ 1\ 1\ 1\ 1\ 1 \\ 3\ 3\ 3\ 3\ 3\ 3 \\ +\ 4\ 4\ 4\ 4\ 4\ 4 \\ \hline 8\ 8\ 8\ 8\ 8\ 8 \end{array}$
(v) $\textcircled{1}\ \textcircled{1}\ \textcircled{1}\ \textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 4\ 5\ 5\ 5\ 5\ 5 \\ 3\ 3\ 3\ 3\ 3\ 3 \\ +\ 2\ 2\ 2\ 2\ 2\ 2 \\ \hline 10\ 1\ 1\ 1\ 1\ 0 \end{array}$	(vi) $\textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 3\ 5\ 6\ 5\ 0\ 0 \\ 1\ 2\ 3\ 4\ 0\ 0 \\ +\ 2\ 2\ 0\ 0\ 0\ 0 \\ \hline 6\ 9\ 9\ 9\ 0\ 0 \end{array}$	(vii) $\textcircled{1}\ \textcircled{1}\ \textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 2\ 3\ 3\ 6\ 2\ 4 \\ 2\ 1\ 2\ 2\ 1\ 2 \\ 3\ 0\ 0\ 2 \\ +\ 1\ 1\ 1 \\ \hline 4\ 4\ 8\ 9\ 4\ 9 \end{array}$	

**Exercise 4.2**

**1. Add :**

(i) $\textcircled{1}\ \textcircled{1}\ \textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 4\ 6\ 7\ 8\ 9 \\ +\ 4\ 5\ 4\ 5\ 6 \\ \hline 9\ 2\ 2\ 4\ 5 \end{array}$	(ii) $\textcircled{1}\ \textcircled{1}\ \textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 6\ 9\ 8\ 8\ 7 \\ +\ 2\ 7\ 7\ 9\ 8 \\ \hline 9\ 7\ 6\ 8\ 5 \end{array}$	(iii) $\textcircled{1}\ \textcircled{1}\ \textcircled{1}\ \textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 4\ 7\ 5\ 7\ 6\ 5 \\ +\ 3\ 7\ 8\ 6\ 7\ 8 \\ \hline 8\ 5\ 4\ 4\ 4\ 3 \end{array}$	(iv) $\textcircled{1}\ \textcircled{1}\ \textcircled{1}\ \textcircled{1}\ \textcircled{1}$ $\begin{array}{r} 6\ 7\ 7\ 9\ 7\ 9 \\ +\ 2\ 9\ 9\ 7\ 6\ 4 \\ \hline 9\ 7\ 7\ 7\ 4\ 3 \end{array}$
--	---	--	---

$$\begin{array}{r}
 \text{(v)} \quad \textcircled{1}\textcircled{2}\textcircled{2} \\
 3\ 4\ 6\ 5\ 7\ 8 \\
 3\ 3\ 5\ 5\ 7 \\
 3\ 4\ 6\ 6 \\
 + \quad 4\ 4\ 5 \\
 \hline
 3\ 8\ 4\ 0\ 4\ 6
 \end{array}$$

$$\begin{array}{r}
 \text{(vi)} \quad \textcircled{1}\textcircled{1}\textcircled{1}\textcircled{1} \\
 5\ 5\ 5\ 5\ 5 \\
 2\ 3\ 4\ 3\ 4 \\
 5\ 5\ 3\ 4\ 3 \\
 + \quad 2\ 1\ 2\ 2\ 2 \\
 \hline
 1\ 5\ 5\ 5\ 5\ 4
 \end{array}$$

$$\begin{array}{r}
 \text{(vii)} \quad \textcircled{2}\textcircled{3}\textcircled{3}\textcircled{3}\textcircled{2} \\
 2\ 6\ 9\ 6\ 9\ 3 \\
 4\ 6\ 8\ 8\ 7\ 6 \\
 4\ 7\ 8\ 6\ 5\ 4 \\
 + 3\ 5\ 7\ 7\ 8\ 9 \\
 \hline
 1\ 5\ 7\ 5\ 0\ 1\ 2
 \end{array}$$

$$\begin{array}{r}
 \text{(viii)} \quad \textcircled{2}\textcircled{2}\textcircled{2}\textcircled{3} \\
 5\ 6\ 7\ 8\ 9 \\
 4\ 5\ 6\ 7\ 8 \\
 3\ 4\ 5\ 6\ 7 \\
 + \quad 2\ 3\ 4\ 5\ 6 \\
 \hline
 1\ 6\ 0\ 4\ 9\ 0
 \end{array}$$

2. Arrange the following in columns and add them :

$$\begin{array}{r}
 \text{(i)} \quad 6\ 4\ 6\ 3\ 2\ 5 \\
 5\ 8\ 7\ 5\ 2\ 5 \\
 + 4\ 4\ 5\ 5\ 6\ 6 \\
 \hline
 1\ 6\ 7\ 9\ 4\ 1\ 6
 \end{array}$$

$$\begin{array}{r}
 \text{(ii)} \quad 3\ 3\ 2\ 2\ 3\ 3 \\
 4\ 5\ 2\ 3\ 6 \\
 + 6\ 6\ 6\ 5 \\
 \hline
 3\ 8\ 4\ 1\ 3\ 4
 \end{array}$$

$$\begin{array}{r}
 \text{(iii)} \quad 7\ 8\ 7\ 6\ 5\ 4 \\
 2\ 3\ 4\ 5\ 6\ 7 \\
 + 3\ 2\ 3\ 4\ 5\ 6 \\
 \hline
 1\ 3\ 4\ 5\ 6\ 7\ 7
 \end{array}$$

$$\begin{array}{r}
 \text{(iv)} \quad 5\ 7\ 7\ 7\ 7\ 7 \\
 6\ 4\ 4\ 4\ 4\ 4 \\
 3\ 5\ 5\ 5\ 5\ 5 \\
 + 4\ 2\ 2\ 2\ 2\ 2 \\
 \hline
 1\ 9\ 9\ 9\ 9\ 9\ 8
 \end{array}$$

$$\begin{array}{r}
 \text{(v)} \quad 2\ 5\ 4\ 8\ 6\ 7 \\
 6\ 8\ 2\ 6\ 5\ 4 \\
 5\ 5\ 3\ 4\ 6\ 2 \\
 + 4\ 6\ 1\ 4\ 6\ 7 \\
 \hline
 1\ 9\ 5\ 2\ 4\ 5\ 0
 \end{array}$$

$$\begin{array}{r}
 \text{(vi)} \quad 8\ 8\ 6\ 8\ 8\ 8\ 8 \\
 5\ 3\ 3\ 3\ 3 \\
 2\ 2\ 4\ 2\ 2 \\
 + 4\ 6\ 6 \\
 \hline
 8\ 9\ 4\ 5\ 1\ 0\ 9
 \end{array}$$

### Exercise 4.3

$$\begin{array}{r}
 1. \quad \text{In the forest no. of elephants} \quad = \quad 42675 \\
 \text{In the forest no. of lions} \quad = \quad + 34314 \\
 \text{Total no. of animals in the forest} \quad = \quad \underline{76989}
 \end{array}$$

$$\begin{array}{r}
 2. \quad \text{The factory manufactured bats in first month} \quad = \quad 3426 \\
 \text{The factory manufactured bats in second month} \quad = \quad + 5263 \\
 \text{Total bats manufactured by factory in two months} \quad = \quad \underline{8689}
 \end{array}$$

$$\begin{array}{r}
 3. \quad \text{No. of men in the state} \quad = \quad 42656 \\
 \text{No. of woman in the state} \quad = \quad 32574 \\
 \text{No. of children in the state} \quad = \quad + 114728 \\
 \text{Total population of the state} \quad = \quad \underline{189958}
 \end{array}$$

$$\begin{array}{r}
 4. \quad \text{First number} \quad = \quad 51724 \\
 \text{Second number} \quad = \quad + \quad 428 \\
 \text{Sum of numbers} \quad = \quad \underline{52152}
 \end{array}$$

$$\begin{array}{r}
 5. \quad \text{The library has social science books} \quad = \quad 437248 \\
 \text{The library has history books} \quad = \quad 249721 \\
 \text{The library mathematics books} \quad = \quad + 176454 \\
 \text{Total number of books in the library} \quad = \quad \underline{863423}
 \end{array}$$

6. Largest number of five digits = 99999  
 Smallest number of five digits = + 10000  
 Sum of largest and smallest numbers = 109999
7. No. of men in the town = 42875  
 No. of women in the town = 38769  
 No. of children in the town = + 29281  
 Total number of people in the town = 110925
8. No. of Voters voted for candidate A = 724653  
 No. of Voters voted for candidate B = 149874  
 No. of Voters voted for candidate C = + 25895  
 ∴ Total no. of voters = 900422
9. Largest 6-digit number = 999999  
 Largest 5-digit number = + 99999  
 ∴ Sum = 1099998
10. Weight of rice exported = 540316 kg  
 Weight of sugar exported = 259748 kg  
 Weight of wheat exported = + 179856 kg  
 ∴ Total weight of the goods exported = 979920 kg

## 5.

## Subtraction

### Exercise 5.1

- |  |  |   |   |
|--|--|---|---|
| (1) 22310  | (2) 31422  | (3) 23142   | (4) 34211   |
| (5) 233321   | (6) 112142   |   |   |
| (7) $\begin{array}{r} 376928 \\ - 154613 \\ \hline 222315 \end{array}$ | (8) $\begin{array}{r} 286975 \\ - 51855 \\ \hline 235120 \end{array}$  | (9) $\begin{array}{r} 77845 \\ - 25320 \\ \hline 52525 \end{array}$     | (10) $\begin{array}{r} 89575 \\ - 34250 \\ \hline 55325 \end{array}$    |
| (11) $\begin{array}{r} 94860 \\ - 54540 \\ \hline 40320 \end{array}$   | (12) $\begin{array}{r} 135735 \\ - 24521 \\ \hline 111214 \end{array}$ | (13) $\begin{array}{r} 897576 \\ - 546342 \\ \hline 351234 \end{array}$ | (14) $\begin{array}{r} 543782 \\ - 321530 \\ \hline 222252 \end{array}$ |

### Exercise 5.2

- |           |           |           |           |
|-----------|-----------|-----------|-----------|
| (1) 16189 | (2) 38655 | (3) 26628 | (4) 18883 |
| (5) 12491 | (6) 17375 |           |           |

(7)	$\begin{array}{r} 89163 \\ - 54875 \\ \hline 34288 \end{array}$	(8)	$\begin{array}{r} 90524 \\ - 75855 \\ \hline 14669 \end{array}$	(9)	$\begin{array}{r} 135780 \\ - 95695 \\ \hline 40085 \end{array}$	(10)	$\begin{array}{r} 109890 \\ - 65704 \\ \hline 44186 \end{array}$
(11)	$\begin{array}{r} 421821 \\ - 139486 \\ \hline 282335 \end{array}$	(12)	$\begin{array}{r} 342528 \\ - 150645 \\ \hline 191883 \end{array}$				

### Exercise 5.3

1. The cost of bike = ₹ 35550  
The cost of cycle = - ₹ 7865  
The bike costlier than the cycle =  $\frac{\text{₹ } 35550}{\text{₹ } 7865}$
2. The publisher printed books in 1st year = 65850  
The publisher printed books in second year = - 51990  
∴ The no. of books printed more in 1st year =  $\frac{65850}{51990}$
3. The population of the town = 100256  
No. of females in the town = - 49006  
Number of males in the town =  $\frac{100256}{49006}$
4. In board exam students appeared = 72503  
No. of students passed the exam = - 21855  
No. of students failed in the exam =  $\frac{72503}{21855}$
5. Ramesh had the rupees = ₹ 65220  
He bought the scooti for = - ₹ 35435  
∴ Money left with him =  $\frac{\text{₹ } 65220}{\text{₹ } 35435}$
6. Mr. Raj bought Honda car for = ₹ 85525  
Mr. Raj sold Honda car = ₹ 91000  
He gained in this transaction = - ₹ 85525  
 $\frac{\text{₹ } 85525}{\text{₹ } 91000}$
7. Second number = 21460  
21460  
First number = - 8675  
We should added =  $\frac{21460}{8675}$
8. Piyush deposited rupees in his bank account = ₹ 46180  
He withdrew rupees to purchase a Scotter = ₹ 26835  
Money left in his bank account =  $\frac{\text{₹ } 46180}{\text{₹ } 26835}$

# 6.

# Multiplication

## Exercise 6.1

1. (i) 
$$\begin{array}{r} \textcircled{3} \\ 5\ 7 \\ \times 5 \\ \hline 2\ 8\ 5 \end{array}$$
- (ii) 
$$\begin{array}{r} \textcircled{7} \\ 9\ 9 \\ \times 8 \\ \hline 7\ 9\ 2 \end{array}$$
- (iii) 
$$\begin{array}{r} \textcircled{1}\ \textcircled{3} \\ 2\ 2\ 9 \\ \times 4 \\ \hline 9\ 1\ 6 \end{array}$$
- (iv) 
$$\begin{array}{r} 9\ 2\ 1 \\ \times 3 \\ \hline 2\ 7\ 6\ 3 \end{array}$$
- (v) 
$$\begin{array}{r} \textcircled{7} \\ 2\ 9 \\ \times 8 \\ \hline 2\ 3\ 2 \end{array}$$
- (vi) 
$$\begin{array}{r} 5\ 8\ 4 \\ \times 1\ 1 \\ \hline 5\ 8\ 4 \\ 5\ 8\ 4\ \times \\ \hline 6\ 4\ 2\ 4 \end{array}$$
- (vii) 
$$\begin{array}{r} 1\ 1\ 1 \\ \times 1\ 2 \\ \hline 2\ 2\ 2 \\ 1\ 1\ 1\ \times \\ \hline 1\ 3\ 3\ 2 \end{array}$$
- (viii) 
$$\begin{array}{r} \textcircled{2} \\ 3\ 1\ 4 \\ \times 1\ 5 \\ \hline 1\ 5\ 7\ 0 \\ 3\ 1\ 4\ \times \\ \hline 4\ 7\ 1\ 0 \end{array}$$
- (ix) 
$$\begin{array}{r} \textcircled{1}\ \textcircled{3} \\ 5\ 2\ 5 \\ \times 1\ 6 \\ \hline 3\ 1\ 5\ 0 \\ 5\ 2\ 5\ \times \\ \hline 8\ 4\ 0\ 0 \end{array}$$
- (x) 
$$\begin{array}{r} 8\ 1\ 0 \\ \times 2\ 5 \\ \hline 4\ 0\ 5\ 0 \\ 1\ 6\ 2\ 0\ \times \\ \hline 2\ 0\ 2\ 5\ 0 \end{array}$$
- (xi) 
$$\begin{array}{r} \textcircled{3} \\ \textcircled{6} \\ 0\ 9\ 8 \\ \times 4\ 8 \\ \hline 7\ 8\ 4 \\ 3\ 9\ 2\ \times \\ \hline 4\ 7\ 0\ 4 \end{array}$$
- (viii) 
$$\begin{array}{r} \textcircled{1} \\ 0\ 9\ 7 \\ \times 2\ 2 \\ \hline 1\ 9\ 4 \\ 1\ 9\ 4\ \times \\ \hline 2\ 1\ 3\ 4 \end{array}$$

2. 
$$\begin{array}{r} \text{No. of benches in the school auditorium} = 200 \\ \text{No. of children that can sit on 1 bench} = \times 6 \\ \hline \text{No. of children that can sit in the auditorium at a time} = 1200 \end{array}$$

3. 
$$\begin{array}{r} \text{No. of apples that can be packed in 1 box} = 1\ 2\ 5 \\ \text{No. of Apples that can be packed such as 50 boxes} = \times 5\ 0 \\ \hline 0\ 0\ 0 \\ 6\ 2\ 5\ \times \\ \hline 6\ 2\ 5\ 0 \end{array}$$

4. 
$$\begin{array}{r} \text{No. of children in the class} = 1\ 6\ 0 \\ \text{Money contributed by each child} = \times 2\ 5 \\ \hline 8\ 0\ 0 \\ 3\ 2\ 0\ \times \\ \hline \text{Total money contributed by 160 children} = ₹ 4\ 0\ 0\ 0 \end{array}$$

$$\begin{array}{r}
 5. \quad \text{No. of pencils in 1 packet} = \quad 1 \ 4 \ 4 \\
 \quad \quad \text{No. of packets} = \quad \times 3 \ 5 \\
 \hline
 \quad \quad \quad \quad \quad \quad \quad 7 \ 2 \ 0 \\
 \quad \quad \quad \quad \quad \quad \quad 4 \ 3 \ 2 \ \times \\
 \hline
 \therefore \text{No. of pencils in 35 packets} = \underline{\underline{5 \ 0 \ 4 \ 0}}
 \end{array}$$

6. Fill in the blanks :
- (a) 859                      (b) 143                      (c) 28                      (d) 99                      (e) 84  
 (f) 100                      (g) 22

### Exercise 6.2

#### 1. Multiply the following :

(a) $  \begin{array}{r}  150 \\  \times 32 \\  \hline  300 \\  450 \times \\  \hline  4800  \end{array}  $	(b) $  \begin{array}{r}  126 \\  \times 222 \\  \hline  252 \\  252 \times \\  \hline  252 \times \times \\  \hline  27972  \end{array}  $	(c) $  \begin{array}{r}  \textcircled{2}\textcircled{2} \\  555 \\  \times 55 \\  \hline  2775 \\  2775 \times \\  \hline  30525  \end{array}  $	(d) $  \begin{array}{r}  624 \\  \times 426 \\  \hline  3744 \\  1248 \times \\  \hline  2496 \times \times \\  \hline  265824  \end{array}  $	(e) $  \begin{array}{r}  111 \\  \times 250 \\  \hline  000 \\  555 \times \\  \hline  222 \times \times \\  \hline  27750  \end{array}  $
(f) $  \begin{array}{r}  333 \\  \times 33 \\  \hline  999 \\  999 \times \\  \hline  10989  \end{array}  $	(g) $  \begin{array}{r}  214 \\  \times 324 \\  \hline  856 \\  428 \times \\  \hline  642 \times \times \\  \hline  69336  \end{array}  $	(h) $  \begin{array}{r}  742 \\  \times 167 \\  \hline  5194 \\  4452 \times \\  \hline  742 \times \times \\  \hline  123914  \end{array}  $	(i) $  \begin{array}{r}  320 \\  \times 854 \\  \hline  1280 \\  1600 \times \\  \hline  2560 \times \times \\  \hline  273280  \end{array}  $	(j) $  \begin{array}{r}  8888 \\  \times 521 \\  \hline  8888 \\  17776 \times \\  \hline  44440 \times \times \\  \hline  4630648  \end{array}  $
(k) $  \begin{array}{r}  2354 \\  \times 333 \\  \hline  7062 \\  7062 \times \\  \hline  7062 \times \times \\  \hline  783882  \end{array}  $	(l) $  \begin{array}{r}  2135 \\  \times 444 \\  \hline  8540 \times \\  8540 \times \times \\  \hline  947940  \end{array}  $	(m) $  \begin{array}{r}  9574 \\  \times 0 \\  \hline  0000  \end{array}  $	(n) $  \begin{array}{r}  8024 \\  \times 102 \\  \hline  16048 \\  0000 \times \\  \hline  8024 \times \times \\  \hline  818448  \end{array}  $	(o) $  \begin{array}{r}  4625 \\  \times 420 \\  \hline  0000 \\  9250 \times \\  \hline  18500 \times \times \\  \hline  1942500  \end{array}  $

(p)  $36 \times 42 \times 23$

$$\begin{array}{r}
 36 \\
 \times 42 \\
 \hline
 72 \\
 144 \times \\
 \hline
 1512
 \end{array}$$

$$\begin{array}{r}
 1512 \\
 \times 23 \\
 \hline
 4536 \\
 3024 \times \\
 \hline
 34776
 \end{array}$$

(q)  $13 \times 40 \times 52$  ,  $55 \times 30 \times 13 = 21450$

$$\begin{array}{r}
 13 \\
 \times 40 \\
 \hline
 00 \\
 52 \times \\
 \hline
 520
 \end{array}$$

$$\begin{array}{r}
 520 \\
 \times 52 \\
 \hline
 1040 \\
 2600 \times \\
 \hline
 27040
 \end{array}$$

$$\begin{array}{r}
 55 \\
 \times 30 \\
 \hline
 00 \\
 165 \times \\
 \hline
 1650
 \end{array}$$

$$\begin{array}{r}
 1650 \\
 \times 13 \\
 \hline
 4950 \\
 1650 \times \\
 \hline
 21450
 \end{array}$$

$$(s) 19 \times 14 \times 12$$

$$\begin{array}{r} 19 \quad 266 \\ \times 14 \quad \times 12 \\ \hline 76 \quad 532 \\ 19 \times \quad 266 \times \\ \hline 266 \quad 3192 \end{array}$$

$$(t) 364 \times 742 \times 624$$

$$\begin{array}{r} 364 \quad 270088 \\ \times 742 \quad \times 624 \\ \hline 728 \quad 1080352 \\ 1456 \times \quad 540176 \times \\ \hline 2548 \times \times \quad 1620528 \times \times \\ \hline 270088 \quad 168534912 \end{array}$$

### Exercise 6.3

1. No. of notes of ₹ 50 Radha had =  $\begin{array}{r} 6 \ 1 \ 5 \\ \times 5 \ 0 \\ \hline 0 \ 0 \ 0 \\ 3 \ 0 \ 7 \ 5 \ \times \\ \hline 3 \ 0 \ 7 \ 5 \ 0 \end{array}$   
Value of 1 note =

Total money she had ₹

2. No. of bottles of medicine in 1 box =  $\begin{array}{r} 5 \ 6 \ 4 \\ \times 1 \ 3 \ 6 \\ \hline 3 \ 3 \ 8 \ 4 \\ 1 \ 6 \ 9 \ 2 \ \times \\ 5 \ 6 \ 4 \ \times \ \times \\ \hline 7 \ 6 \ 7 \ 0 \ 4 \end{array}$   
No. of boxes =

∴ No. of bottles in 136 boxes =

3. Monthly savings of a person = ₹  $\begin{array}{r} 4 \ 7 \ 6 \\ \times 1 \ 5 \\ \hline 2 \ 3 \ 8 \ 0 \\ 4 \ 7 \ 6 \ \times \\ \hline 7 \ 1 \ 4 \ 0 \end{array}$   
No. of months =

∴ Total savings in 15 months = ₹

4. The cost of one pair of shoes =  $\begin{array}{r} 3 \ 4 \ 5 \\ \times 4 \ 0 \ 0 \\ \hline 0 \ 0 \ 0 \\ 0 \ 0 \ 0 \ \times \\ 1 \ 3 \ 8 \ 0 \ \times \ \times \\ \hline 1 \ 3 \ 8 \ 0 \ 0 \ 0 \end{array}$   
No. of pairs of shoes =

The cost of 400 such pairs of shoes =

5. No. of peanuts in one packet =  $\begin{array}{r} 5 \ 0 \ 0 \\ \times 3 \ 3 \ 5 \\ \hline 2 \ 5 \ 0 \ 0 \\ 1 \ 5 \ 0 \ 0 \ \times \\ 1 \ 5 \ 0 \ 0 \ \times \ \times \\ \hline 1 \ 6 \ 7 \ 5 \ 0 \ 0 \end{array}$   
No. of packets =

Numbers of peanuts in 335 such packets =

6.	Monthly fees of 1 student	=	₹ 1 7 5
	No. of students	=	× 4 5 7
			1 2 2 5
			8 7 5 ×
			7 0 0 × ×
	∴ Total monthly fees of 457 students	=	7 9 9 7 5

7.	The cost of 1 scooter	=	₹ 4 9 2 5
	No. of scooters	=	× 2 0 0
			0 0 0 0
			0 0 0 0 ×
			9 8 5 0 × ×
	The cost of 200 such scooters	=	9 8 5 0 0 0

8.	The cost of 1 table	=	₹ 1 3 5
	No. of tables	=	× 1 7 2
			2 7 0
			9 4 5 ×
			1 3 5 × ×
	The cost of 172 such tables	=	2 3 2 2 0

9.	1 bundle of wire has length of wire	=	1 8 9
	No. of bundles	=	× 6 0 3
			5 6 7
			0 0 0 ×
			1 1 3 4 × ×
	The total length of wire in 603 such bundles =		1 1 3 9 6 7 metre

10.	No. of flowers in 1 boquet	=	1 4 4
	No. of boquets	=	× 3 0 0
			0 0 0
			0 0 0 ×
			4 3 2 × ×
	Flowers are required to make 300 boquets =		4 3 2 0 0

11.	1 sack of wheat weight	=	1 0 7 kg
	No. of sacks	=	× 4 0 7
			7 4 9
			0 0 0 ×
			4 2 8 × ×
	The weight of 407 such sacks =		4 3 5 4 9 kg



$$\begin{array}{r}
 12. \qquad \qquad \text{No. of apples in 1 box} = \qquad 2 \ 3 \ 9 \\
 \qquad \qquad \text{No. of boxes} = \qquad \times 3 \ 0 \ 5 \\
 \qquad \qquad \qquad \qquad \qquad \qquad \quad \quad \quad 1 \ 1 \ 9 \ 5 \\
 \qquad \qquad \qquad \qquad \qquad \qquad \quad \quad \quad 0 \ 0 \ 0 \times \\
 \qquad \qquad \qquad \qquad \qquad \qquad \quad \quad \quad 7 \ 1 \ 7 \times \times \\
 \hline
 \text{Total number of apples in 305 such boxes} = \quad 7 \ 2 \ 8 \ 9 \ 5
 \end{array}$$

## 7.

## Division

### Exercise 7.1

#### 1. Fill in the blanks :

- (a) 4928          (b) 1          (c) 1          (d) 0          (e) 436  
 (f) 555          (g) 6295      (h) 0

### Exercise 7.2

#### 1. Divide :

- (i)  $5 \overline{) 2100} \left( 420 \right.$       (ii)  $3 \overline{) 2181} \left( 727 \right.$       (iii)  $2 \overline{) 8452} \left( 4226 \right.$       (iv)  $5 \overline{) 4950} \left( 990 \right.$
- $$\begin{array}{r}
 20 \\
 \hline
 10 \\
 10 \\
 \hline
 \times 0 \\
 0 \\
 \hline
 \times \\
 \hline
 \end{array}$$
- $$\begin{array}{r}
 21 \\
 \hline
 \times 8 \\
 6 \\
 \hline
 21 \\
 21 \\
 \hline
 \times \\
 \hline
 \end{array}$$
- $$\begin{array}{r}
 8 \\
 \hline
 \times 4 \\
 4 \\
 \hline
 \times 5 \\
 4 \\
 \hline
 12 \\
 12 \\
 \hline
 \times \\
 \hline
 \end{array}$$
- $$\begin{array}{r}
 45 \\
 \hline
 45 \\
 45 \\
 \hline
 \times 0 \\
 0 \\
 \hline
 \times \\
 \hline
 \end{array}$$
- (v)  $7 \overline{) 4949} \left( 707 \right.$       (vi)  $4 \overline{) 4444} \left( 1111 \right.$       (vii)  $2 \overline{) 2428} \left( 1214 \right.$       (viii)  $3 \overline{) 3333} \left( 1111 \right.$
- $$\begin{array}{r}
 49 \\
 \hline
 49 \\
 49 \\
 \hline
 \times \\
 \hline
 \end{array}$$
- $$\begin{array}{r}
 4 \\
 \hline
 \times 4 \\
 4 \\
 \hline
 \times 4 \\
 4 \\
 \hline
 \times 4 \\
 4 \\
 \hline
 \times \\
 \hline
 \end{array}$$
- $$\begin{array}{r}
 2 \\
 \hline
 \times 4 \\
 4 \\
 \hline
 \times 2 \\
 2 \\
 \hline
 \times 8 \\
 8 \\
 \hline
 \times \\
 \hline
 \end{array}$$
- $$\begin{array}{r}
 3 \\
 \hline
 \times 3 \\
 3 \\
 \hline
 \times 3 \\
 3 \\
 \hline
 \times 3 \\
 3 \\
 \hline
 \times \\
 \hline
 \end{array}$$

#### 2. Write the quotient and remainder of the following :

- (i)  $6 \overline{) 5867} \left( 977 \right.$       (ii)  $5 \overline{) 8489} \left( 1697 \right.$       (iii)  $8 \overline{) 3452} \left( 431 \right.$
- $$\begin{array}{r}
 54 \\
 \hline
 46 \\
 42 \\
 \hline
 47 \\
 42 \\
 \hline
 5
 \end{array}$$
- Q = 977  
R = 5
- $$\begin{array}{r}
 5 \\
 \hline
 34 \\
 30 \\
 \hline
 48 \\
 45 \\
 \hline
 39 \\
 35 \\
 \hline
 4
 \end{array}$$
- Q = 1697  
R = 4
- $$\begin{array}{r}
 32 \\
 \hline
 25 \\
 24 \\
 \hline
 12 \\
 08 \\
 \hline
 4
 \end{array}$$
- Q = 431  
R = 4

$$\begin{array}{r} \text{(iv)} \quad 9 \overline{) 9293} \left( 1032 \right. \\ \underline{9} \\ \times 29 \\ \underline{27} \\ \times 23 \\ \underline{18} \\ \underline{5} \end{array}$$

$$Q = 1032 \\ R = 5$$

$$\begin{array}{r} \text{(v)} \quad 4 \overline{) 7667} \left( 1916 \right. \\ \underline{4} \\ \underline{36} \\ \underline{36} \\ \times 6 \\ \underline{4} \\ \underline{27} \\ \underline{24} \\ \underline{3} \end{array}$$

$$Q = 1916 \\ R = 3$$

$$\begin{array}{r} \text{(vi)} \quad 7 \overline{) 6823} \left( 974 \right. \\ \underline{63} \\ \underline{52} \\ \underline{49} \\ \underline{33} \\ \underline{28} \\ \underline{5} \end{array}$$

$$Q = 974 \\ R = 5$$

### 3. Find the quotient and the remainder :

$$\begin{array}{r} \text{(i)} \quad 7 \overline{) 80253} \left( 11464 \right. \\ \underline{7} \\ \underline{10} \\ \underline{7} \\ \underline{32} \\ \underline{28} \\ \underline{55} \\ \underline{42} \\ \underline{33} \\ \underline{28} \\ \underline{5} \end{array}$$

$$Q = 11464 \\ R = 5$$

$$\begin{array}{r} \text{(ii)} \quad 9 \overline{) 57108} \left( 6345 \right. \\ \underline{54} \\ \underline{31} \\ \underline{27} \\ \underline{40} \\ \underline{36} \\ \underline{48} \\ \underline{45} \\ \underline{3} \end{array}$$

$$Q = 6345 \\ R = 3$$

$$\begin{array}{r} \text{(iii)} \quad 5 \overline{) 29863} \left( 5972 \right. \\ \underline{25} \\ \underline{48} \\ \underline{45} \\ \underline{36} \\ \underline{35} \\ \underline{13} \\ \underline{10} \\ \underline{3} \end{array}$$

$$Q = 5972 \\ R = 3$$

$$\begin{array}{r} \text{(iv)} \quad 4 \overline{) 63058} \left( 15764 \right. \\ \underline{4} \\ \underline{23} \\ \underline{20} \\ \underline{30} \\ \underline{28} \\ \underline{25} \\ \underline{24} \\ \underline{18} \\ \underline{16} \\ \underline{2} \end{array}$$

$$Q = 15764 \\ R = 2$$

### Exercise 7.3

#### 1. Divide and find the quotient and remainder and also check your solution :

$$\begin{array}{r} \text{(i)} \quad 16 \overline{) 53684} \left( 3355 \right. \\ \underline{48} \\ \underline{56} \\ \underline{48} \\ \underline{88} \\ \underline{80} \\ \underline{84} \\ \underline{80} \\ \underline{4} \end{array}$$

$$Q = 3355 \\ R = 4$$

$$\begin{array}{r} \text{(ii)} \quad 11 \overline{) 1245} \left( 113 \right. \\ \underline{11} \\ \underline{14} \\ \underline{11} \\ \underline{35} \\ \underline{33} \\ \underline{2} \end{array}$$

$$Q = 113 \\ R = 2$$

$$\begin{aligned} \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\ &= 16 \times 3355 + 4 \\ &= 53680 + 4 \\ &= 53684 \end{aligned}$$

$$\begin{aligned} \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\ &= 11 \times 113 + 2 \\ &= 1243 + 2 \\ &= 1245 \end{aligned}$$

$$\begin{array}{r}
 \text{(iii) } 15 \overline{) 8693} \left( 579 \right. \\
 \underline{75} \\
 119 \\
 \underline{105} \\
 143 \\
 \underline{135} \\
 8 \\
 \hline
 \end{array}
 \quad
 \begin{array}{l}
 Q = 579 \\
 R = 8
 \end{array}$$

$$\begin{aligned}
 \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 &= 15 \times 579 + 8 \\
 &= 8685 + 8 \\
 &= 8693
 \end{aligned}$$

$$\begin{array}{r}
 \text{(iv) } 19 \overline{) 78762} \left( 4145 \right. \\
 \underline{76} \\
 27 \\
 \underline{19} \\
 86 \\
 \underline{76} \\
 102 \\
 \underline{95} \\
 7 \\
 \hline
 \end{array}
 \quad
 \begin{array}{l}
 Q = 4145 \\
 R = 7
 \end{array}$$

$$\begin{aligned}
 \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 &= 19 \times 4145 + 7 \\
 &= 78755 + 7 \\
 &= 78762
 \end{aligned}$$

$$\begin{array}{r}
 \text{(v) } 23 \overline{) 9687} \left( 421 \right. \\
 \underline{92} \\
 48 \\
 \underline{46} \\
 27 \\
 \underline{23} \\
 4 \\
 \hline
 \end{array}
 \quad
 \begin{array}{l}
 Q = 421 \\
 R = 4
 \end{array}$$

$$\begin{aligned}
 \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 &= 23 \times 421 + 4 \\
 &= 9683 + 4 \\
 &= 9687
 \end{aligned}$$

$$\begin{array}{r}
 \text{(vi) } 14 \overline{) 29873} \left( 2133 \right. \\
 \underline{28} \\
 18 \\
 \underline{14} \\
 47 \\
 \underline{42} \\
 53 \\
 \underline{42} \\
 11 \\
 \hline
 \end{array}
 \quad
 \begin{array}{l}
 Q = 2133 \\
 R = 11
 \end{array}$$

$$\begin{aligned}
 \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 &= 14 \times 2133 + 11 \\
 &= 29862 + 11 \\
 &= 29873
 \end{aligned}$$

$$\begin{array}{r}
 \text{(vii) } 22 \overline{) 8648} \left( 393 \right. \\
 \underline{66} \\
 204 \\
 \underline{198} \\
 68 \\
 \underline{66} \\
 2 \\
 \hline
 \end{array}
 \quad
 \begin{array}{l}
 Q = 393 \\
 R = 2
 \end{array}$$

$$\begin{aligned}
 \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 &= 22 \times 393 + 2 \\
 &= 8646 + 2 \\
 &= 8648
 \end{aligned}$$

$$\begin{array}{r}
 \text{(viii) } 34 \overline{) 36892} \left( 1085 \right. \\
 \underline{34} \\
 289 \\
 \underline{272} \\
 172 \\
 \underline{170} \\
 2 \\
 \hline
 \end{array}
 \quad
 \begin{array}{l}
 Q = 1085 \\
 R = 2
 \end{array}$$

$$\begin{aligned}
 \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 &= 34 \times 1085 + 2 \\
 &= 36890 + 2 \\
 &= 36892
 \end{aligned}$$

$$\begin{array}{r}
 \text{(ix) } 20 \overline{) 68932} \left( 3446 \right. \\
 \underline{60} \\
 89 \\
 \underline{80} \\
 93 \\
 \underline{80} \\
 132 \\
 \underline{120} \\
 12
 \end{array}
 \quad
 \begin{array}{l}
 Q = 3446 \\
 R = 12
 \end{array}$$

$$\begin{aligned}
 \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 &= 20 \times 3446 + 12 \\
 &= 68920 + 12 \\
 &= 68932
 \end{aligned}$$

$$\begin{array}{r}
 \text{(x) } 35 \overline{) 32457} \left( 927 \right. \\
 \underline{315} \\
 95 \\
 \underline{70} \\
 257 \\
 \underline{245} \\
 12
 \end{array}
 \quad
 \begin{array}{l}
 Q = 927 \\
 R = 12
 \end{array}$$

$$\begin{aligned}
 \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 &= 35 \times 927 + 12 \\
 &= 32445 + 12 \\
 &= 32457
 \end{aligned}$$

## 2. Divide and check your answer :

$$\begin{array}{r}
 \text{(i) } 542 \overline{) 757243} \left( 1397 \right. \\
 \underline{542} \\
 2152 \\
 \underline{1626} \\
 5264 \\
 \underline{4878} \\
 3863 \\
 \underline{3794} \\
 69
 \end{array}
 \quad
 \begin{array}{l}
 Q = 1397 \\
 R = 69
 \end{array}$$

$$\begin{aligned}
 \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 &= 542 \times 1397 + 69 \\
 &= 757174 + 69 \\
 &= 757243
 \end{aligned}$$

$$\begin{array}{r}
 \text{(ii) } 815 \overline{) 823463} \left( 1010 \right. \\
 \underline{815} \\
 846 \\
 \underline{815} \\
 313 \\
 \underline{313} \\
 0
 \end{array}
 \quad
 \begin{array}{l}
 Q = 1010 \\
 R = 313
 \end{array}$$

$$\begin{aligned}
 \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 &= 815 \times 1010 + 313 \\
 &= 823150 + 313 \\
 &= 823463
 \end{aligned}$$

$$\begin{array}{r}
 \text{(iii) } 222 \overline{) 95768} \left( 431 \right. \\
 \underline{888} \\
 696 \\
 \underline{666} \\
 308 \\
 \underline{222} \\
 86
 \end{array}
 \quad
 \begin{array}{l}
 Q = 431 \\
 R = 86
 \end{array}$$

$$\begin{aligned}
 \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 &= 222 \times 431 + 86 \\
 &= 95682 + 86 \\
 &= 95768
 \end{aligned}$$

$$\begin{array}{r}
 \text{(iv) } 122 \overline{) 123476} \left( 1012 \right. \\
 \underline{122} \\
 147 \\
 \underline{122} \\
 256 \\
 \underline{244} \\
 12
 \end{array}
 \quad
 \begin{array}{l}
 Q = 1012 \\
 R = 12
 \end{array}$$

$$\begin{aligned}
 \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 &= 122 \times 1012 + 12 \\
 &= 123464 + 12 \\
 &= 123476
 \end{aligned}$$

$$\begin{array}{r}
 \text{(v) } 333 \overline{) 55555} \quad (116 \\
 \underline{333} \\
 2225 \\
 \underline{1998} \\
 2275 \\
 \underline{1998} \\
 277
 \end{array}
 \quad
 \begin{array}{l}
 Q = 166 \\
 R = 277
 \end{array}$$

$$\begin{array}{r}
 \text{(vi) } 421 \overline{) 523461} \quad (1243 \\
 \underline{421} \\
 1024 \\
 \underline{842} \\
 1826 \\
 \underline{1684} \\
 1421 \\
 \underline{1263} \\
 158
 \end{array}
 \quad
 \begin{array}{l}
 Q = 1243 \\
 R = 158
 \end{array}$$

$$\begin{aligned}
 \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 &= 333 \times 166 + 277 \\
 &= 55278 + 277 \\
 &= 55555
 \end{aligned}$$

$$\begin{aligned}
 \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 &= 421 \times 1243 + 158 \\
 &= 523303 + 158 \\
 &= 523461
 \end{aligned}$$

$$\begin{array}{r}
 \text{(vii) } 233 \overline{) 452673} \quad (1942 \\
 \underline{233} \\
 2196 \\
 \underline{2097} \\
 997 \\
 \underline{932} \\
 653 \\
 \underline{466} \\
 187
 \end{array}
 \quad
 \begin{array}{l}
 Q = 1942 \\
 R = 187
 \end{array}$$

$$\begin{array}{r}
 \text{(viii) } 301 \overline{) 98234} \quad (326 \\
 \underline{903} \\
 793 \\
 \underline{602} \\
 1914 \\
 \underline{1806} \\
 108
 \end{array}
 \quad
 \begin{array}{l}
 Q = 326 \\
 R = 108
 \end{array}$$

$$\begin{aligned}
 \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 &= 233 \times 1942 + 187 \\
 &= 452486 + 187 \\
 &= 452673
 \end{aligned}$$

$$\begin{aligned}
 \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 &= 301 \times 326 + 108 \\
 &= 98126 + 108 \\
 &= 98234
 \end{aligned}$$

### Exercise 7.4

#### 1. Find the quotient and the remainder without actual division :

- |  |  |
|--|--|
| <p>1. Th H T O<br/>8 7 1 9 <math>\div</math> 1000</p>        | <p>8719 = 8 thousands + 719 ones<br/>= Quotient = 8, Remainder = 719</p>   |
| <p>2. T.Th Th H T O<br/>1 1 0 8 0 <math>\div</math> 1000</p> | <p>11080 = 11 thousands + 80 ones<br/>= Quotient = 11, Remainder = 80</p>  |
| <p>3. T.Th Th H T O<br/>2 3 1 6 7 <math>\div</math> 100</p>  | <p>23167 = 231 hundreds + 67 ones<br/>= Quotient = 231, Remainder = 67</p> |
| <p>4. Th H T O<br/>3 7 4 5 <math>\div</math> 10</p>          | <p>3745 = 374 tens + 5 ones<br/>= Quotient = 374, Remainder = 5</p>        |
| <p>5. TTh Th H T O<br/>1 8 7 5 0 <math>\div</math> 10</p>    | <p>18750 = 1875 tens + ones<br/>= Quotient = 1875, Remainder = 0</p>       |
| <p>6. Th H T O<br/>7 1 9 0 <math>\div</math> 10</p>          | <p>7190 = 719 tens + 0 ones<br/>= Quotient = 719, Remainder = 0</p>        |
| <p>7. Th H T O<br/>6 5 3 2 <math>\div</math> 100</p>         | <p>6532 = 65 hundreds + 32 ones<br/>= Quotient = 65, Remainder = 32</p>    |

- |                                     |  |
|-------------------------------------|--|
| 8. Th H T O<br>3 7 0 0 ÷ 100        | 3700 = 37 hundreds + ones<br>= Quotient = 37, Remainder = 0      |
| 9. Th H T O<br>8 4 2 0 ÷ 100        | 8420 = 84 hundreds + 20 ones<br>= Quotient = 84, Remainder = 20  |
| 10. Th H T O<br>4 0 0 0 ÷ 1000      | 4000 = 4 thousands + 0 ones<br>= Quotient = 4, Remainder = 0     |
| 11. Th H T O<br>9 5 0 0 ÷ 1000      | 9500 = 9 thousands + 500 ones<br>= Quotient = 9, Remainder = 500 |
| 12. T.Th Th H T O<br>8 3 6 9 3 ÷ 10 | 83693 = 8369 tens + 3 ones<br>= Quotient = 8369, Remainder = 3   |

### Exercise 7.5

1. 50 leaves can be put in = 1 basket  
∴ 1250 leaves can be put in =  $\frac{1250}{50} = 25$  baskets **Ans.**
2. Ravi runs in 1 hour (= 60 minutes) = 10800 metre  
∴ Ravi runs in 1 minute =  $\frac{10800}{60} = 180$  metre **Ans.**
3. 40 drums contain water = 2000 litre  
∴ 1 drum contains =  $\frac{2000}{40} = 50$  litre water **Ans.**
4. 17 shelves have = 3706 books  
∴ 1 shelf will have =  $\frac{3706}{17} = 218$  books **Ans.**
5. Product of two numbers = 15625  
One of them = 25  
Another number =  $15625 \div 25 = \frac{15625}{25} = 625$  **Ans.**
6. 52 children were carried by = 1 bus  
∴ 624 children would be carried by =  $\frac{624}{52} = 12$  buses **Ans.**
7. 54 books contain = 13608 pages  
∴ 1 book will contain =  $\frac{13608}{54} = 252$  pages **Ans.**
8. No. of 20 rupee notes that can be exchanged for ₹ 6060 =  $\frac{6060}{20}$   
= 303 notes **Ans.**
9. 92 crates of spirit can be put in = 1 wagon  
∴ 11500 crates can be put in =  $\frac{11500}{92} = 125$  wagons **Ans.**
10. Greatest number of 6 digits = 999999  
Greatest number of 2 digits = 99

$$\text{Division} = \frac{999999}{99} = 10101 \text{ Ans.}$$

11. No. of trees in 37 rows = 1887 trees

$$\therefore \text{No. of trees in 1 row} = \frac{1887}{37} = 51 \text{ trees Ans.}$$

12. 14 pages are read by Radha in = 1 day

$$\therefore 434 \text{ pages will be read in} = \frac{434}{14} = 31 \text{ days Ans.}$$

---

## 8.

## Unitary Method

---

### Exercise 8.1

1. Cost of 12 footballs = ₹ 3600

$$\therefore \text{cost of 1 football} = ₹ 3600 \div 12 \\ = ₹ 300$$

$$\text{So, the cost of 18 football} = ₹ 300 \times 18 \\ = ₹ 5400 \text{ Ans.}$$

2. Cost of 9 bicycles = ₹ 18945

$$\therefore \text{Cost of 1 bicycle} = ₹ 18945 \div 9$$

$$\text{So, the cost of 1 bicycle} = ₹ 2105 \text{ Ans.}$$

3. Cost of 8 dolls = ₹ 6400

$$\therefore \text{Cost of one doll} = ₹ 6400 \div 8 \\ = ₹ 800$$

$$\text{So, the cost of 18 dolls} = ₹ 800 \times 18 \\ = 14400 \text{ Ans.}$$

4. Cost of 20 books = ₹ 1580

$$\therefore \text{Cost of one book} = ₹ 1580 \div 20$$

$$\text{So, the cost of one book} = ₹ 79 \text{ Ans.}$$

5. Cost of 4 litre vegetable oil = ₹ 840

$$\therefore \text{cost of 1 litre vegetable oil} = ₹ 840 \div 4 \\ = ₹ 210 \text{ Ans.}$$

$$\text{So, the cost of 6 litre vegetable oil} = ₹ 210 \times 6 \\ = ₹ 1260 \text{ Ans.}$$

6. Cost of 5 ceiling fans = ₹ 4500

$$\therefore \text{Cost of 1 ceiling fans} = ₹ 4500 \div 5$$

$$\text{So, the cost of one ceiling fan} = ₹ 900 \text{ Ans.}$$

7. Cost of 3 kg milk powder = ₹ 750

$$\therefore \text{Cost of 1 kg milk powder} = ₹ 750 \div 3$$

$$\text{So, the cost of 1 kg milk powder} = ₹ 250 \text{ Ans.}$$

8. The factory makes toys in 20 days = 5000

$$\text{The factory will make toys in one day} = 5000 \div 20 \\ = 250 \text{ Ans.}$$

$$\therefore \text{Toys made in 25 days} = 250 \times 25 = 6250$$

9. Cost of 12 shirts = ₹ 15000  
 $\therefore$  Cost of 1 shirt = ₹ 15000  $\div$  12  
= ₹ 1250  
So, the cost of 18 shirts = ₹ 1250  $\times$  18  
= ₹ 22500 **Ans.**
10. 4 planes can carry passengers = 1180  
 $\therefore$  1 plane can carry passengers = 1180  $\div$  4  
= 295  
So, 9 planes can carry the passengers = 295  $\times$  9  
= 2655 **Ans.**
11. A man earns money in 10 days = ₹ 5000  
He will earn money in 1 day = ₹ 5000  $\div$  10  
= ₹ 500  
So, he will earn money in 3 days = ₹ 500  $\times$  3  
= ₹ 1500
12. A car covers the distance in 20 hours = 2020 km  
 $\therefore$  The car covers the distance 1 hour = 2020  $\div$  20  
= 101 km  
So, the car covers the distance in 15 hours = 101  $\times$  15  
= 1515 km
13. The annual rent of the house = ₹ 168000  
 $\therefore$  Monthly rent of the house = ₹ 168000  $\div$  12  
= ₹ 14000  
So, the rent for 10 months = ₹ 14000  $\times$  10  
= ₹ 140000
14. Cost of 9 fans = ₹ 13482  
 $\therefore$  cost of 1 fan = ₹ 13482  $\div$  9  
= ₹ 1498  
So, the cost of 12 fans = ₹ 1498  $\times$  12  
= ₹ 17976
15. Cost of the 1 almirah = ₹ 3585  
So the cost of 9 almirah = ₹ 3585  $\times$  9  
= ₹ 32265

## 9.

## Multiples and Factors

### Exercise 9.1

- |                           |                           |                          |
|---------------------------|---------------------------|--------------------------|
| 1. (i) 8, 16, 24, 32, 40  | (ii) 15, 30, 45, 60, 75   | (iii) 19, 38, 57, 76, 95 |
| (iv) 5, 10, 15, 20, 25    | (v) 4, 8, 12, 16, 20      | (vi) 11, 22, 33, 44, 55  |
| (vii) 13, 26, 39, 52, 65  | (viii) 12, 24, 36, 48, 60 | (ix) 16, 32, 48, 64, 80  |
| (x) 9, 18, 27, 36, 45     | (xi) 17, 34, 51, 68, 85   |                          |
| 2. (i) No                 | (ii) No                   | (iii) Yes                |
|                           |                           | (iv) Yes                 |
| 3. 33, 36, 39, 42, 45, 48 |                           |                          |



### Exercise 9.2

1. (i) Multiples of 7 = 7, 14, 21, 28, 35, 42, 49, 56, 63, 70  
 Multiples of 9 = 9, 18, 27, 36, 45, 54, 63, 72, 81, 90 common multiple of 7 and 9 is 63.
  - (ii) Multiples of 2 = 2, 4, 6, 8, 10, 12, 14, 16, 18, 20  
 Multiples of 5 = 5, 10, 15, 20, 25, 30, 35, 40, 45, 50 common multiple of 2 are 10, 20.
  - (iii) Multiples of 3 = 3, 6, 9, 12, 15, 18, 21, 24, 27, 30  
 Multiples of 4 = 4, 8, 12, 16, 20, 24, 28, 32, 36, 40 common multiple of 3 and 12, 24.
  - (iv) Multiples of 8 = 8, 16, 24, 32, 40, 48, 56, 64, 72, 80  
 Multiples of 9 = 9, 18, 27, 36, 45, 54, 63, 72, 81, 90  
 $\therefore$  Common multiples = 72
  - (v) Multiples of 4 = 4, 8, 12, 16, 20, 24, 28, 32, 36, 40  
 Multiples of 5 = 5, 10, 15, 20, 25, 30, 35, 40, 45, 50  
 $\therefore$  Common multiples = 20, 40
  - (vi) Multiples of 9 = 9, 18, 27, 36, 45, 54, 63, 72, 81, 90  
 Multiples of 12 = 12, 24, 36, 48, 60, 72, 84, 96, 108, 120  
 $\therefore$  Common multiples = 36, 72
  - (vii) Multiples of 10 = 10, 20, 30, 40, 50, 60, 70, 80, 90, 100  
 Multiples of 20 = 20, 40, 60, 80, 100, 120, 140, 160, 180, 200  
 $\therefore$  Common multiples = 20, 40, 60, 80, 100
  - (viii) Multiples of 6 = 6, 12, 18, 24, 30, 36, 42, 48, 54, 60  
 Multiples of 8 = 8, 16, 24, 32, 40, 48, 56, 64, 72, 80  
 $\therefore$  Common multiples = 24, 48
  - (ix) Multiples of 15 = 15, 30, 45, 60, 75, 90, 105, 120, 135, 150  
 Multiples of 20 = 20, 40, 60, 80, 100, 120, 140, 160, 180, 200  
 $\therefore$  Common multiples = 60, 120
2. (i)  $3 = 1 \times 3, 4 = 2 \times 2, \text{LCM } 1 \times 3 \times 2 \times 2 = 12$
  - (ii)  $5 = 1 \times 5, 10 = 2 \times 5, \text{LCM } 1 \times 5 \times 2 = 10$
  - (iii)  $5 = 1 \times 5, 6 = 2 \times 3, \text{LCM } 5 \times 1 \times 2 \times 3 = 30$
  - (iv)  $2 = 2 \times 1, 3 = 3 \times 1, \text{LCM } 2 \times 3 = 6$
  - (v)  $2 = 2 \times 1, 3 = 3 \times 1, 6 = 2 \times 3, \text{LCM} = 2 \times 3 \times 1 = 6$
  - (vi)  $2 = 2 \times 1, 9 = 3 \times 3, \text{LCM} = 3 \times 3 \times 2 = 18$
  - (vii)  $2 = 2 \times 1, 4 = 2 \times 2, 6 = 2 \times 3, \text{LCM} = 2 \times 3 \times 2 = 12$
  - (viii)  $4 = 2 \times 2, 6 = 2 \times 3, 8 = 2 \times 2 \times 2,$   
 $\text{LCM} = 2 \times 3 \times 2 \times 2 = 24$
  - (ix)  $10 = 2 \times 5, 20 = 2 \times 2 \times 5, 30 = 2 \times 3 \times 5, \text{LCM} = 5 \times 2 \times 3 \times 2 = 60$
3. (i) Multiples of 6 = 6, 12, 18, 24, 30, 36, 42, 48, 54, 60  
 Multiples of 8 = 8, 16, 24, 32, 40, 48, 56, 64, 72, 80  
 Second common multiple = 48

- (ii) Multiples of 3 = 3, 6, 9, 12, 15, 18, 21, 24, 27, 30  
 Multiples of 4 = 4, 8, 12, 16, 20, 24, 28, 32, 36, 40  
 = Second common multiple = 24
- (iii) Multiples of 2 = 2, 4, 6, 8, 10, 12, 14, 16, 18, 20  
 Multiples of 3 = 3, 6, 9, 12, 15, 18, 21, 24, 27, 30  
 Second common multiple = 12
- (iv) Multiples of 4 = 4, 8, 12, 16, 20, 24, 28, 32, 36, 40  
 Multiples of 10 = 10, 20, 30, 40, 50, 60, 70, 80, 90, 100  
 Second common multiple = 40
- (v) Multiples of 2 = 2, 4, 6, 8, 10, 12, 14, 16, 18, 20  
 Multiples of 5 = 5, 10, 15, 20, 25, 30, 35, 40, 45, 50  
 Second common multiple = 20

### Exercise 9.3

1.

$$(i) \begin{array}{r|l} 2 & 32 \\ \hline 2 & 16 \\ \hline 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array}$$

$$(ii) \begin{array}{r|l} 5 & 95 \\ \hline 19 & 19 \\ \hline & 1 \end{array}$$

$$(iii) \begin{array}{r|l} 3 & 99 \\ \hline 3 & 33 \\ \hline 11 & 11 \\ \hline & 1 \end{array}$$

Hence factors of 32 are  
 1, 2, 4, 8, 16 and 32.

$\therefore$  Factors of 95 = 1, 5, 19, 95

$\therefore$  Factors of 99 = 1, 3, 9, 11, 33, 99

$$(iv) \begin{array}{r|l} 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$(v) \begin{array}{r|l} 2 & 68 \\ \hline 2 & 34 \\ \hline 17 & 17 \\ \hline & 1 \end{array}$$

$\therefore$  Factors of 27 = 1, 3, 9, 27

$\therefore$  Factors of 68 = 1, 2, 4, 17, 34, 68

2.

$$30 \begin{array}{r|l} 2 & 30 \\ \hline 3 & 15 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

Factor of 30 = 1, 3, 5, 6, 10, 30

$\therefore$  Smallest factor = 1

Greatest factor = 30

3.

$$36 \begin{array}{r|l} 2 & 36 \\ \hline 2 & 18 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

Factors of 36 = 1, 2, 4, 9, 6, 12, 18, 36

∴ Smaller factor = 1

Greater factor = 36

4. Find the missing factors :

(i) 8

(ii) 15

(iii) 11

(iv) 7

(v) 8

(vi) 8

### Exercise 9.4

1. (i) 18 = 1, 2, 3, 6, 9, 18      22 = 1, 2, 11      Common factor = 1, 2  
(ii) 12 = 1, 2, 3, 4, 6, 12      15 = 1, 3, 5, 15      Common factor = 1, 3  
(iii) 3 = 1, 3      13 = 1, 13      Common factor = 1  
(iv) 9 = 1, 3, 9      12 = 1, 2, 3, 4, 6, 12      Common factor = 1, 3  
(v) 20 = 1, 2, 4, 5, 10, 20      24 = 1, 2, 3, 4, 6, 8, 12, 24      Common factor = 1, 2, 4  
(vi) 15 = 1, 3, 5, 15      20 = 1, 2, 4, 5, 10, 20      Common factor = 1, 5  
(vii) 45 = 1, 3, 5, 9, 15, 45      60 = 1, 2, 3, 4, 5, 6, 10, 12, 15, 30, 60  
72 = 1, 2, 3, 4, 6, 8, 9, 12, 24, 36, 72      Common factor = 1, 3  
(viii) 24 = 1, 2, 3, 4, 6, 8, 12, 24      27 = 1, 3, 9, 27      Common factor = 1, 3  
(ix) 12 = 1, 2, 3, 4, 6, 12      18 = 1, 2, 3, 6, 18  
36 = 1, 2, 3, 4, 6, 12, 18, 36      Common factor = 1, 2, 3, 6
2. (i) 30 = 2 × 3 × 5, 45 = 3 × 3 × 5      HCF = 3 × 5 = 15  
(ii) 4 = 2 × 2, 6 = 2 × 3      HCF = 2  
(iii) 9 = 3 × 3, 15 = 3 × 5      HCF = 3  
(iv) 6 = 3 × 2, 12 = 2 × 2 × 3      HCF = 2 × 3 = 6  
(v) 16 = 2 × 2 × 2 × 2, 20 = 2 × 2 × 5, 24 = 2 × 2 × 2 × 3      HCF = 2 × 2 = 4  
(vi) 12 = 2 × 2 × 3, 15 = 3 × 5, 18 = 2 × 3 × 3      HCF = 3  
(vii) 25 = 5 × 5, 45 = 3 × 3 × 5, 60 = 2 × 2 × 5 × 3      HCF = 5  
(viii) 18 = 2 × 3 × 3, 24 = 2 × 2 × 2 × 3, 30 = 2 × 3 × 5      HCF = 3 × 2 = 6  
(ix) 5 = 5 × 1, 10 = 2 × 5, 15 = 3 × 5      HCF = 5

### Exercise 9.5

1. (i) 71, 41      (ii) 73, 101, 13      (iii) 7, 19, 2      (iv) 53, 13, 17, 47
2. (i) 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100  
Prime numbers = (79, 83, 89, 97) = Four in all.  
(ii) 5 and 25  
5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25  
Prime numbers = (5, 7, 11, 13, 17, 19, 23) = Seven in all.
3. (i) Yes      (ii) No  
(iii) Composite number between 1 to 35  
4, 6, 8, 9, 10, 12, 14, 15, 16, 18, 20, 21, 22, 24, 25, 26, 27, 28, 30, 32, 33, 34

4. (i) Composite numbers between 50 and 70 :  
 51, 52, 54, 55, 56, 57, 58, 60, 62, 63, 65, 66, 68, 69  
 (ii) Composite numbers between 30 and 40 :  
 32, 33, 34, 35, 36, 38, 39  
 (iii) Composite numbers between 70 and 90 :  
 72, 74, 75, 76, 77, 78, 80, 81, 82, 84, 85, 86, 87, 88
5. (i) True            (ii) False            (iii) False            (iv) False

# 10

# Highest Common Factors

## Exercise 10.1

- |   |  |                          |
|---|--|--------------------------|
| 1. (i) $49 = 7 \times 7,$                           | 63 = 7 × 9   | HCF = 7                  |
| (ii) $8 = 2 \times 2 \times 2,$                     | $16 = 2 \times 2 \times 2 \times 2,$ $20 = 2 \times 2 \times 5,$ | HCF = 2 × 2 = 4          |
| (iii) $2 = 2 \times 1$                              | $8 = 2 \times 2 \times 2$ $18 = 2 \times 3 \times 3$             | HCF = 2                  |
| (iv) $4 = 2 \times 2$                               | $8 = 2 \times 2 \times 2$ $12 = 2 \times 2 \times 3$             | HCF = 2 × 2 = 4          |
| (v) $18 = 2 \times 3 \times 3$                      | $27 = 3 \times 3 \times 3$ $36 = 2 \times 2 \times 3 \times 3$   | HCF = 3 × 3 = 9          |
| (vi) $72 = 2 \times 2 \times 2 \times 3 \times 3$   | $96 = 2 \times 2 \times 2 \times 2 \times 2 \times 3$            | HCF = 2 × 2 × 2 × 3 = 24 |
| (vii) $33 = 11 \times 3$                            | $44 = 11 \times 4$ $55 = 11 \times 5$                            | HCF = 11                 |
| (viii) $48 = 2 \times 2 \times 2 \times 2 \times 3$ | $80 = 2 \times 2 \times 2 \times 2 \times 5$                     | HCF = 2 × 2 × 2 × 2 = 16 |
| (ix) $36 = 2 \times 2 \times 3 \times 3$            | $48 = 2 \times 2 \times 2 \times 2 \times 3$                     | HCF = 2 × 2 × 3 = 12     |
| (x) $40 = 2 \times 2 \times 2 \times 5$             | $60 = 2 \times 2 \times 5 \times 3$                              |                          |
| $80 = 2 \times 2 \times 2 \times 2 \times 5$        |  | HCF = 2 × 2 × 5 = 20     |
| (xi) $11 = 1 \times 11$                             | $33 = 11 \times 3$ $121 = 11 \times 11$                          | HCF = 11                 |
| (xii) $21 = 7 \times 3$                             | $28 = 7 \times 2 \times 2$ $35 = 7 \times 5$                     | HCF = 7                  |
| (xiii) $48 = 2 \times 2 \times 2 \times 2 \times 3$ | $64 = 2 \times 2 \times 2 \times 2 \times 2 \times 2$            | HCF = 2 × 2 × 2 × 2 = 16 |
| (xiv) $12 = 2 \times 2 \times 3$                    | $18 = 2 \times 3 \times 3$ $30 = 2 \times 3 \times 5$            | HCF = 2 × 3 = 6          |
| (xv) $5 = 5 \times 1$                               | $35 = 5 \times 7$ $45 = 5 \times 3 \times 3$                     | HCF = 5                  |
| (xvi) $36 = 2 \times 2 \times 3 \times 3$           | $64 = 2 \times 2 \times 2 \times 2 \times 2 \times 2$            | HCF = 2 × 2 = 4          |

## Exercise 10.2

(i) 

2	60
2	30
3	15
5	5
	1

5	75
5	15
3	3
	1

$$60 = 2 \times 2 \times 3 \times 5$$

$$75 = 3 \times 5 \times 5$$

$$\text{HCF} = 5 \times 3 = 15$$

(ii) 

2	108
2	54
3	27
3	9
3	3
	1

2	144
2	72
2	36
2	18
3	9
3	3
	1

$$108 = 2 \times 2 \times 3 \times 3 \times 3$$

$$144 = 2 \times 2 \times 2 \times 2 \times 3 \times 3$$

$$\text{HCF} = 2 \times 2 \times 3 \times 3 = 36$$

$$(iii) \begin{array}{r|l} 2 & 56 \\ \hline 2 & 28 \\ \hline 2 & 14 \\ \hline 7 & 7 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 84 \\ \hline 2 & 42 \\ \hline 3 & 21 \\ \hline 7 & 7 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 13 & 91 \\ \hline 7 & 7 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 56 &= 2 \times 2 \times 2 \times 7 \\ 84 &= 2 \times 2 \times 3 \times 7 \\ 91 &= 13 \times 7 \\ \text{HCF} &= 7 \end{aligned}$$

$$(iv) \begin{array}{r|l} 2 & 72 \\ \hline 2 & 36 \\ \hline 2 & 18 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 96 \\ \hline 2 & 48 \\ \hline 2 & 24 \\ \hline 2 & 12 \\ \hline 2 & 6 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 120 \\ \hline 2 & 60 \\ \hline 2 & 30 \\ \hline 5 & 15 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 72 &= 2 \times 2 \times 2 \times 3 \times 3 \\ 96 &= 2 \times 2 \times 2 \times 2 \times 2 \times 3 \\ 120 &= 2 \times 2 \times 2 \times 5 \times 3 \\ \text{HCF} &= 2 \times 2 \times 2 \times 3 = 24 \end{aligned}$$

$$(v) \begin{array}{r|l} 11 & 22 \\ \hline 2 & 2 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 44 \\ \hline 2 & 22 \\ \hline 11 & 11 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 66 \\ \hline 3 & 33 \\ \hline 11 & 11 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 22 &= 11 \times 2 \\ 44 &= 2 \times 2 \times 11 \\ 66 &= 2 \times 3 \times 11 \\ \text{HCF} &= 11 \times 2 = 22 \end{aligned}$$

$$(vi) \begin{array}{r|l} 2 & 64 \\ \hline 2 & 32 \\ \hline 2 & 16 \\ \hline 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 128 \\ \hline 2 & 64 \\ \hline 2 & 32 \\ \hline 2 & 16 \\ \hline 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 48 \\ \hline 2 & 24 \\ \hline 2 & 12 \\ \hline 2 & 6 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 64 &= 2 \times 2 \times 2 \times 2 \times 2 \times 2 \\ 128 &= 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \\ 48 &= 2 \times 2 \times 2 \times 2 \times 3 \\ \text{HCF} &= 2 \times 2 \times 2 \times 2 = 16 \end{aligned}$$

$$(vii) \begin{array}{r|l} 2 & 30 \\ \hline 3 & 15 \\ \hline 5 & 5 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 5 & 45 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 5 & 75 \\ \hline 5 & 15 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 30 &= 2 \times 3 \times 5 \\ 45 &= 5 \times 3 \times 3 \\ 75 &= 5 \times 5 \times 3 \\ \text{HCF} &= 5 \times 3 = 15 \end{aligned}$$

$$(viii) \begin{array}{r|l} 2 & 12 \\ \hline 2 & 6 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 54 \\ \hline 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 60 \\ \hline 2 & 30 \\ \hline 3 & 15 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 12 &= 2 \times 2 \times 3 \\ 54 &= 2 \times 3 \times 3 \times 3 \\ 60 &= 2 \times 2 \times 3 \times 5 \\ \text{HCF} &= 2 \times 3 = 6 \text{ Ans.} \end{aligned}$$

$$(ix) \begin{array}{r|l} 3 & 15 \\ \hline 5 & 5 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 5 & 25 \\ \hline 5 & 5 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 30 \\ \hline 3 & 15 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 15 &= 3 \times 5 \\ 25 &= 5 \times 5 \\ 30 &= 2 \times 3 \times 5 \\ \text{HCF} &= 5 \text{ Ans.} \end{aligned}$$

$$(x) \begin{array}{r|l} 5 & 275 \\ \hline 5 & 55 \\ \hline 11 & 11 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 330 \\ \hline 3 & 165 \\ \hline 5 & 55 \\ \hline 11 & 11 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 110 \\ \hline 5 & 55 \\ \hline 11 & 11 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 275 &= 5 \times 5 \times 11 \\ 330 &= 2 \times 3 \times 5 \times 11 \\ 110 &= 2 \times 5 \times 11 \\ \text{HCF} &= 5 \times 11 = 55 \text{ Ans.} \end{aligned}$$

$$(xi) \begin{array}{c|c} 2 & 36 \\ \hline 2 & 18 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 2 & 90 \\ \hline 3 & 45 \\ \hline 3 & 15 \\ \hline 5 & 5 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 2 & 136 \\ \hline 2 & 68 \\ \hline 2 & 34 \\ \hline 17 & 17 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 36 &= 2 \times 2 \times 3 \times 3 \\ 90 &= 2 \times 3 \times 3 \times 5 \\ 136 &= 2 \times 2 \times 2 \times 17 \\ \text{HCF} &= 2 \text{ Ans.} \end{aligned}$$

$$(xii) \begin{array}{c|c} 5 & 25 \\ \hline 5 & 5 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 2 & 50 \\ \hline 5 & 25 \\ \hline 5 & 5 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 3 & 75 \\ \hline 5 & 25 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 25 &= 5 \times 5 \\ 50 &= 2 \times 5 \times 5 \\ 75 &= 3 \times 5 \times 5 \\ \text{HCF} &= 5 \times 5 = 25 \text{ Ans.} \end{aligned}$$

$$(xiii) \begin{array}{c|c} 2 & 54 \\ \hline 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 2 & 72 \\ \hline 2 & 36 \\ \hline 2 & 18 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 2 & 108 \\ \hline 2 & 54 \\ \hline 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 54 &= 2 \times 3 \times 3 \times 3 \\ 72 &= 2 \times 2 \times 2 \times 3 \times 3 \\ 108 &= 2 \times 2 \times 3 \times 3 \times 3 \\ \text{HCF} &= 2 \times 3 \times 3 = 18 \end{aligned}$$

$$(xiv) \begin{array}{c|c} 7 & 7 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 2 & 98 \\ \hline 7 & 49 \\ \hline 7 & 7 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 5 & 105 \\ \hline 3 & 21 \\ \hline 7 & 7 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 7 &= 7 \times 1 \\ 98 &= 7 \times 7 \times 2 \\ 105 &= 5 \times 7 \times 3 \\ \text{HCF} &= 7 \end{aligned}$$

$$(xv) \begin{array}{c|c} 2 & 256 \\ \hline 2 & 128 \\ \hline 2 & 64 \\ \hline 2 & 32 \\ \hline 2 & 16 \\ \hline 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 2 & 80 \\ \hline 2 & 40 \\ \hline 2 & 20 \\ \hline 2 & 10 \\ \hline 5 & 5 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 2 & 16 \\ \hline 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 256 &= 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \\ 80 &= 2 \times 2 \times 2 \times 2 \times 5 \\ 16 &= 2 \times 2 \times 2 \times 2 \\ \text{HCF} &= 2 \times 2 \times 2 \times 2 = 16 \end{aligned}$$

$$(xvi) \begin{array}{c|c} 2 & 18 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 2 & 30 \\ \hline 5 & 15 \\ \hline 3 & 5 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 2 & 42 \\ \hline 3 & 21 \\ \hline 7 & 7 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 18 &= 2 \times 3 \times 3 \\ 30 &= 2 \times 5 \times 3 \\ 42 &= 2 \times 3 \times 7 \\ \text{HCF} &= 2 \times 3 = 6 \end{aligned}$$

$$(xvii) \begin{array}{c|c} 5 & 25 \\ \hline 5 & 5 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 2 & 40 \\ \hline 2 & 20 \\ \hline 2 & 10 \\ \hline 5 & 5 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 5 & 65 \\ \hline 13 & 13 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 25 &= 5 \times 5 \\ 40 &= 2 \times 2 \times 2 \times 5 \\ 65 &= 5 \times 13 \\ \text{HCF} &= 5 \end{aligned}$$

$$(xviii) \begin{array}{c|c} 2 & 38 \\ \hline 19 & 19 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 5 & 95 \\ \hline 19 & 19 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 3 & 171 \\ \hline 3 & 57 \\ \hline 19 & 19 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 38 &= 19 \times 2 \\ 95 &= 19 \times 5 \\ 171 &= 19 \times 3 \times 3 \\ \text{HCF} &= 19 \end{aligned}$$

(xix)  $87 - 7 = 80$ ,  $77 - 7 = 70$ ,  $107 - 7 = 100$

$$\begin{array}{r|l} 2 & 80 \\ \hline 2 & 40 \\ 2 & 20 \\ 2 & 10 \\ 5 & 5 \\ & 1 \end{array} \quad \begin{array}{r|l} 2 & 70 \\ \hline 5 & 35 \\ 7 & 7 \\ & 1 \end{array} \quad \begin{array}{r|l} 2 & 100 \\ \hline 2 & 50 \\ 5 & 25 \\ 5 & 5 \\ & 1 \end{array}$$

$$80 = 2 \times 2 \times 2 \times 2 \times 5$$

$$70 = 2 \times 5 \times 7$$

$$100 = 2 \times 2 \times 5 \times 5$$

$$\text{HCF} = 2 \times 5 = 10$$

## 11. Lowest Common Multiples

### Exercise 11.1

1. Find the LCM of:

(i)  $\begin{array}{r|l} 2 & 20 \\ \hline 2 & 10 \\ 5 & 5 \\ & 1 \end{array} \quad \begin{array}{r|l} 2 & 30 \\ \hline 3 & 15 \\ 5 & 5 \\ & 1 \end{array}$

$$20 = 2 \times 2 \times 5$$

$$30 = 2 \times 3 \times 5$$

$$\text{LCM} = 2 \times 2 \times 3 \times 5 = 60$$

(ii)  $\begin{array}{r|l} 3 & 15 \\ \hline 5 & 5 \\ & 1 \end{array} \quad \begin{array}{r|l} 3 & 18 \\ \hline 3 & 6 \\ 2 & 2 \\ & 1 \end{array}$

$$15 = 3 \times 5$$

$$18 = 3 \times 3 \times 2$$

$$\text{LCM} = 3 \times 3 \times 2 \times 5 = 90$$

(iii)  $\begin{array}{r|l} 3 & 21 \\ \hline & 7 \\ 5 & 1 \\ & 1 \end{array} \quad \begin{array}{r|l} 2 & 28 \\ \hline 2 & 14 \\ 7 & 7 \\ & 1 \end{array}$

$$21 = 3 \times 7$$

$$28 = 2 \times 2 \times 7$$

$$\text{LCM} = 3 \times 7 \times 2 \times 2 = 84$$

(iv)  $\begin{array}{r|l} 7 & 7 \\ \hline & 1 \\ 2 & \end{array} \quad \begin{array}{r|l} 7 & 14 \\ \hline 2 & 2 \\ & 1 \end{array} \quad \begin{array}{r|l} 3 & 21 \\ \hline 7 & 7 \\ & 1 \end{array}$

$$7 = 7 \times 1$$

$$14 = 7 \times 2$$

$$21 = 7 \times 3$$

$$\text{LCM} = 7 \times 3 \times 2 = 42$$

(v)  $\begin{array}{r|l} 3 & 75 \\ \hline & 25 \\ 5 & 5 \\ & 1 \end{array} \quad \begin{array}{r|l} 2 & 10 \\ \hline 5 & 5 \\ & 1 \end{array}$

$$75 = 3 \times 5 \times 5$$

$$10 = 2 \times 5$$

$$\text{LCM} = 3 \times 5 \times 5 \times 2 = 150$$

(vi)  $\begin{array}{r|l} 2 & 40 \\ \hline & 20 \\ & 10 \\ & 5 \\ & 1 \end{array} \quad \begin{array}{r|l} 2 & 56 \\ \hline 2 & 28 \\ 2 & 14 \\ 7 & 7 \\ & 1 \end{array} \quad \begin{array}{r|l} 2 & 64 \\ \hline 2 & 32 \\ 2 & 16 \\ 2 & 8 \\ 2 & 4 \\ 2 & 2 \\ & 1 \end{array}$

$$40 = 2 \times 2 \times 2 \times 5$$

$$56 = 2 \times 2 \times 2 \times 7$$

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

$$\text{LCM} = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 5 \times 7 = 2240$$

$$\begin{array}{r|l} 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 36 \\ \hline 2 & 18 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 9 &= 3 \times 3 \\ 27 &= 3 \times 3 \times 3 \\ 36 &= 2 \times 2 \times 3 \times 3 \\ \text{LCM} &= 3 \times 3 \times 3 \times 2 \times 2 = 108 \end{aligned}$$

$$\begin{array}{r|l} 2 & 48 \\ \hline 2 & 24 \\ \hline 2 & 12 \\ \hline 2 & 6 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 72 \\ \hline 2 & 36 \\ \hline 2 & 18 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 48 &= 2 \times 2 \times 2 \times 2 \times 3 \\ 72 &= 2 \times 2 \times 2 \times 3 \times 3 \\ \text{LCM} &= 2 \times 2 \times 2 \times 2 \times 3 \times 3 = 144 \end{aligned}$$

$$\begin{array}{r|l} 2 & 6 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 12 \\ \hline 2 & 6 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 18 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 6 &= 2 \times 3 \\ 12 &= 2 \times 2 \times 3 \\ 18 &= 2 \times 3 \times 3 \\ \text{LCM} &= 2 \times 2 \times 3 \times 3 = 36 \end{aligned}$$

$$\begin{array}{r|l} 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 64 \\ \hline 2 & 32 \\ \hline 2 & 16 \\ \hline 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 4 &= 2 \times 2 \\ 8 &= 2 \times 2 \times 2 \\ 64 &= 2 \times 2 \times 2 \times 2 \times 2 \times 2 \\ \text{LCM} &= 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 64 \end{aligned}$$

$$\begin{array}{r|l} 2 & 252 \\ \hline 2 & 126 \\ \hline 7 & 63 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 288 \\ \hline 2 & 144 \\ \hline 2 & 72 \\ \hline 2 & 36 \\ \hline 2 & 18 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 108 \\ \hline 2 & 54 \\ \hline 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 252 &= 2 \times 2 \times 7 \times 3 \times 3 \\ 288 &= 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3 \\ 108 &= 2 \times 2 \times 3 \times 3 \times 3 \\ \text{LCM} &= 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 7 = 6048 \end{aligned}$$

$$\begin{array}{r|l} 2 & 72 \\ \hline 2 & 36 \\ \hline 2 & 18 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 108 \\ \hline 2 & 54 \\ \hline 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 144 \\ \hline 2 & 72 \\ \hline 2 & 36 \\ \hline 2 & 18 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 72 &= 2 \times 2 \times 2 \times 3 \times 3 \\ 108 &= 2 \times 2 \times 3 \times 3 \times 3 \\ 144 &= 2 \times 2 \times 2 \times 2 \times 3 \times 3 \\ \text{LCM} &= 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 3 = 432 \end{aligned}$$

$$\begin{array}{r|l} 2 & 20 \\ \hline 2 & 10 \\ \hline 5 & 5 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 3 & 360 \\ \hline 3 & 120 \\ \hline 2 & 40 \\ \hline 2 & 20 \\ \hline 2 & 10 \\ \hline 5 & 5 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 320 \\ \hline 2 & 160 \\ \hline 2 & 80 \\ \hline 2 & 40 \\ \hline 2 & 20 \\ \hline 2 & 10 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 20 &= 2 \times 2 \times 5 \\ 360 &= 3 \times 3 \times 2 \times 2 \times 2 \times 5 \\ 320 &= 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 5 \\ \text{LCM} &= 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 5 \times 3 \times 3 = 2880 \end{aligned}$$

$$\begin{array}{r|l} 2 & 120 \\ \hline 2 & 60 \\ \hline 2 & 30 \\ \hline 3 & 15 \\ \hline 5 & 5 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 180 \\ \hline 2 & 90 \\ \hline 5 & 45 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 160 \\ \hline 2 & 80 \\ \hline 2 & 40 \\ \hline 2 & 20 \\ \hline 2 & 10 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$$\begin{aligned} 120 &= 2 \times 2 \times 2 \times 3 \times 5 \\ 180 &= 2 \times 2 \times 5 \times 3 \times 3 \\ 160 &= 2 \times 2 \times 2 \times 2 \times 2 \times 5 \\ \text{LCM} &= 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 5 = 1440 \end{aligned}$$



$$(xv) \begin{array}{r|l} 5 & 105 \\ \hline 3 & 21 \\ \hline 7 & 7 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 5 & 135 \\ \hline 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 108 \\ \hline 2 & 54 \\ \hline 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$105 = 5 \times 3 \times 7$$

$$108 = 2 \times 2 \times 3 \times 3 \times 3$$

$$135 = 5 \times 3 \times 3 \times 3$$

$$\text{LCM} = 2 \times 2 \times 3 \times 3 \times 3 \times 5 \times 7 = 3780$$

$$(xvi) \begin{array}{r|l} 2 & 128 \\ \hline 2 & 64 \\ \hline 2 & 32 \\ \hline 2 & 16 \\ \hline 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \\ \hline 2 & 1 \end{array} \quad \begin{array}{r|l} 2 & 64 \\ \hline 2 & 32 \\ \hline 2 & 16 \\ \hline 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 256 \\ \hline 2 & 128 \\ \hline 2 & 64 \\ \hline 2 & 32 \\ \hline 2 & 16 \\ \hline 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array}$$

$$128 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$$

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

$$256 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$$

$$\text{LCM} = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 256$$

- Multiples of 6 = 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72  
Multiples of 9 = 9, 18, 27, 36, 45, 54, 63, 72, 81, 90  
First 4 common Multiples = 18, 36, 54, 72
- First four multiples of 8 = 8, 16, 24, 32
- Multiples of 2 = 2, 4, 6, 8, 10, 12, 14, 16, 18, 20  
Multiples of 4 = 4, 8, 12, 16, 20, 24, 28, 32, 36, 40  
First 3 common Multiples = 4, 8, 12
- First five Multiples 7 = 7, 14, 21, 28, 35

### Exercise 11.2

- HCF of two numbers = 2  
Product of these two numbers = 24  
HCF  $\times$  LCM = Product of two numbers  
 $2 \times \text{LCM} = 24$   
 $\text{LCM} = \frac{24}{2} = 12 \text{ Ans.}$
- $2 = 2 \times 1$        $3 = 3 \times 1$        $12 = 2 \times 2 \times 3$       Smallest No is LCM =  $2 \times 2 \times 3 = 12$

$$3. \quad \begin{array}{r|l} 2 & 24 \\ \hline & 12 \\ \hline & 6 \\ \hline & 3 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 30 \\ \hline & 15 \\ \hline & 5 \\ \hline & 1 \end{array} \quad \begin{array}{r|l} 2 & 36 \\ \hline 2 & 18 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

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

$$30 = 2 \times 3 \times 5$$

$$36 = 2 \times 2 \times 3 \times 3$$

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

$$\text{LCM} = 2 \times 2 \times 2 \times 3 \times 3 \times 5 = 360$$

$$\therefore \text{ Required least number} = 360 + 10 = 370 \text{ Ans.}$$

$$4. \begin{array}{c|c} 2 & 20 \\ \hline 2 & 10 \\ \hline 5 & 5 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 2 & 28 \\ \hline 2 & 14 \\ \hline 7 & 7 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 2 & 36 \\ \hline 2 & 18 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$20 = 2 \times 2 \times 5$$

$$28 = 2 \times 2 \times 7$$

$$36 = 2 \times 2 \times 3 \times 3$$

$$\text{LCM} = 2 \times 2 \times 3 \times 3 \times 5 \times 7 = 1260$$

$$\therefore \text{Required least number} = 1260 + 4 = 1264 \text{ Ans.}$$

$$5. \begin{array}{c|c} 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 2 & 4 \\ \hline 2 & 2 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$3 = 3 \times 1$$

$$4 = 2 \times 2$$

$$9 = 3 \times 3$$

$$\text{LCM} = 3 \times 2 \times 3 \times 2 = 36$$

$$\text{Least Number} = 36 + 2 = 38$$

$$6. \begin{array}{c|c} 2 & 24 \\ \hline 2 & 12 \\ \hline 2 & 6 \\ \hline 3 & 3 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 2 & 30 \\ \hline 3 & 15 \\ \hline 5 & 5 \\ \hline & 1 \end{array} \quad \begin{array}{c|c} 2 & 40 \\ \hline 2 & 20 \\ \hline 2 & 10 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

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

$$30 = 2 \times 3 \times 5$$

$$40 = 2 \times 2 \times 2 \times 5$$

Smallest Number is LCM

$$= 2 \times 2 \times 2 \times 5 \times 3 = 120$$

7. LCM of two numbers = 18  
 HCF of the two numbers = 3  
 One of the numbers = 9  
 LCM  $\times$  HCF = One number  $\times$  Second number  
 $18 \times 3 = 9 \times$  Second number  
 $\therefore$  Second number =  $\frac{18 \times 3}{9} = 6$   
 Hence, second number = 6

## 12.

## Fraction Numbers

1. (i)  $\frac{3}{4}$       (ii)  $\frac{5}{6}$       (iii)  $\frac{1}{3}$       (iv)  $\frac{1}{2}$       (v)  $\frac{2}{3}$       (vi)  $\frac{1}{4}$
2. (i) Numerator = 5, denominator = 8      (ii) Numerator = 19, denominator = 35  
 (iii) Numerator = 2, denominator = 5      (iv) Numerator = 42, denominator = 67  
 (v) Numerator = 8, denominator = 15      (vi) Numerator = 10, denominator = 13
3. Sita gave away 5 pens from packet of 16 pens =  $\frac{5}{16}$   
 Set of pens left with her =  $\frac{16}{16} - \frac{5}{16} = \frac{16-5}{16} = \frac{11}{16}$

4. Priya and her friend ordered a pizza and cut into slices = 10

$$\text{They ate slices} = \frac{7}{10}$$

$$\therefore \text{ Pizza left} = \frac{10}{10} - \frac{7}{10} = \frac{10-7}{10} = \frac{3}{10}$$

5. John bought chocolates = 5; he ate 3 chocolates.

$$\therefore \text{ Fraction of chocolates he ate} = \frac{3}{5}$$

6. Lady bought the packets of tomato soup = 3

She bought the packets of chicken soup = 5

Total packets of soup she bought = 3 + 5 = 8

$$\therefore \text{ Fraction of tomato soup} = \frac{3}{8}$$

### Exercise 12.2

1. (ii)  $\frac{12}{13}, \frac{24}{26}$

(iv)  $\frac{2}{3}, \frac{4}{6}$

(v)  $\frac{4}{5}, \frac{12}{15}$

2. (i)  $\frac{6}{12}$

(ii)  $\frac{8}{12}$

(iii)  $\frac{2}{4}$

(iv)  $\frac{9}{25}$

3. Complete the following :

(i)  $\frac{1}{5} = \frac{2}{10} = \frac{5}{25}$

(ii)  $\frac{2}{7} = \frac{6}{21} = \frac{10}{35}$

(iii)  $\frac{3}{10} = \frac{18}{60} = \frac{15}{50}$

(iv)  $\frac{2}{3} = \frac{6}{9} = \frac{8}{12}$

4. Fill in the missing numbers :

(i)  $\frac{2}{9} = \frac{6}{27}$

(ii)  $\frac{11}{33} = \frac{1}{3}$

(iii)  $\frac{2}{3} = \frac{8}{12}$

(iv)  $\frac{6}{7} = \frac{12}{14}$

(v)  $\frac{5}{35} = \frac{1}{7}$

(vi)  $\frac{4}{5} = \frac{16}{20}$

(vii)  $\frac{16}{36} = \frac{4}{9}$

(viii)  $\frac{5}{6} = \frac{25}{30}$

(ix)  $\frac{15}{40} = \frac{3}{8}$

(x)  $\frac{4}{5} = \frac{24}{30}$

(xi)  $\frac{3}{5} = \frac{15}{25}$

(xii)  $\frac{6}{21} = \frac{2}{7}$

5. Write the next 5 equivalent fractions for each of the following :

(i)  $\frac{15}{20}, \frac{18}{24}, \frac{21}{28}, \frac{24}{32}, \frac{27}{36}$

(ii)  $\frac{10}{25}, \frac{12}{30}, \frac{14}{35}, \frac{16}{40}, \frac{18}{45}$

(iii)  $\frac{35}{45}, \frac{42}{54}, \frac{49}{63}, \frac{56}{72}, \frac{63}{81}$

(iv)  $\frac{25}{30}, \frac{30}{36}, \frac{35}{42}, \frac{40}{48}, \frac{45}{54}$

6. (i)  $\frac{10}{17} = \frac{10 \times 2}{17 \times 2} = \frac{20}{34}$

(ii)  $\frac{1}{3} = \frac{1 \times 20}{3 \times 20} = \frac{20}{60}$

(iii)  $\frac{1}{4} = \frac{1 \times 20}{4 \times 20} = \frac{20}{80}$

(iv)  $\frac{4}{5} = \frac{4 \times 5}{5 \times 5} = \frac{20}{25}$

### Exercise 12.3

(i)  $\frac{24}{40} = \frac{12}{20} = \frac{6}{10} = \frac{3}{5}$

(ii)  $\frac{42}{48} = \frac{21}{24} = \frac{7}{8}$

(iii)  $\frac{81}{108} = \frac{27}{36} = \frac{9}{12} = \frac{3}{4}$

(iv)  $\frac{80}{150} = \frac{8}{15}$

(v)  $\frac{39}{52} = \frac{3}{4}$

(vi)  $\frac{85}{100} = \frac{17}{20}$

$$(vii) \frac{33}{121} = \frac{3}{11}$$

$$(x) \frac{49}{63} = \frac{7}{9}$$

$$(viii) \frac{75}{100} = \frac{3}{4}$$

$$(xi) \frac{36}{45} = \frac{4}{5}$$

$$(ix) \frac{105}{120} = \frac{21}{24} = \frac{7}{8}$$

$$(xii) \frac{48}{60} = \frac{4}{5}$$

### Exercise 12.4

1. Circle the proper fractions :

$$\frac{2}{3}, \frac{6}{7}, \frac{18}{19}, \frac{2}{5}, \frac{3}{7}, \frac{6}{9}, \frac{1}{2}$$

2. Circle the improper fractions :

$$\frac{11}{5}, \frac{13}{8}, \frac{16}{7}, \frac{21}{13}$$

3. (i)  $\frac{56}{5} = 11\frac{1}{5}$

(ii)  $\frac{15}{4} = 3\frac{3}{4}$

(iii)  $\frac{99}{8} = 12\frac{3}{8}$

(iv)  $\frac{101}{10} = 10\frac{1}{10}$

(v)  $\frac{64}{7} = 9\frac{1}{7}$

(vi)  $\frac{25}{8} = 3\frac{1}{8}$

(vii)  $\frac{19}{6} = 3\frac{1}{6}$

(viii)  $\frac{59}{12} = 4\frac{11}{12}$

(ix)  $\frac{27}{11} = 2\frac{5}{11}$

4. Put the sign  $>$ ,  $<$  or  $=$  in the box :

(i) =      (ii)  $>$       (iii)  $<$       (iv)  $<$       (v)  $>$       (vi)  $>$       (vii) =      (viii) =      (ix)  $>$

5. (i) LCM of 7, 14, 21, 28 = 84

$\therefore$  Fractions are  $\frac{60}{84}, \frac{54}{84}, \frac{3}{84}, \frac{20}{84}$  respectively.

$\therefore$  Their descending order is  $\frac{60}{84}, \frac{54}{84}, \frac{20}{84}, \frac{3}{84}$

*i.e.*,  $\frac{5}{7}, \frac{9}{14}, \frac{5}{21}, \frac{1}{28}$  **Ans.**

- (ii) LCM of 5, 9, 3, 10 = 90

$\therefore$  Fractions are  $\frac{54}{90}, \frac{80}{90}, \frac{120}{90}, \frac{27}{90}$  respectively.

$\therefore$  Their descending order is  $\frac{120}{90}, \frac{80}{90}, \frac{54}{90}, \frac{27}{90}$

*i.e.*,  $\frac{4}{3}, \frac{8}{9}, \frac{3}{5}, \frac{3}{10}$  **Ans.**

6. (i) LCM of 9, 6, 18, 3, 4, = 36

$\therefore$  Fractions are  $\frac{20}{36}, \frac{24}{36}, \frac{14}{36}, \frac{9}{36}$  respectively.

$\therefore$  Their ascending order is  $\frac{9}{36}, \frac{14}{36}, \frac{20}{36}, \frac{24}{36}, \frac{60}{36}$

*i.e.*,  $\frac{1}{4}, \frac{7}{18}, \frac{5}{9}, \frac{4}{6}, \frac{5}{3}$  **Ans.**

- (ii) LCM of 7, 7, 6, 3, 2 = 42

$\therefore$  Fractions are  $\frac{18}{42}, \frac{66}{42}, \frac{35}{42}, \frac{28}{42}, \frac{21}{42}$  respectively.

∴ Their ascending order is  $\frac{18}{42}, \frac{21}{42}, \frac{28}{42}, \frac{35}{42}, \frac{66}{42}$

i.e.,  $\frac{3}{7}, \frac{1}{2}, \frac{2}{3}, \frac{5}{6}, \frac{11}{7}$  Ans.

### Exercise 12.5

1. (i)  $\frac{3}{9} + \frac{7}{9} = \frac{3+7}{9} = \frac{10}{9}$  (ii)  $\frac{4}{14} + \frac{6}{14} + \frac{8}{14} = \frac{4+6+8}{14} = \frac{18}{14}$
- (iii)  $\frac{2}{11} + \frac{6}{11} = \frac{6+2}{11} = \frac{8}{11}$  (iv)  $\frac{5}{16} + \frac{7}{16} + \frac{9}{16} = \frac{5+7+9}{16} = \frac{21}{16}$
2. (i)  $7\frac{1}{5}$  and  $5\frac{3}{5} = \frac{36}{5} + \frac{28}{5} = \frac{36+28}{5} = \frac{64}{5} = 12\frac{4}{5}$
- (ii)  $6\frac{1}{11}, 5\frac{4}{11}, 4\frac{3}{11} = \frac{67}{11} + \frac{59}{11} + \frac{47}{11} = \frac{67+59+47}{11} = \frac{173}{11} = 15\frac{8}{11}$
- (iii)  $5\frac{1}{8}$  and  $4\frac{2}{8} = \frac{41}{8} + \frac{34}{8} = \frac{41+34}{8} = \frac{75}{8} = 9\frac{3}{8}$
- (iv)  $8\frac{1}{9}, 4\frac{7}{9}, 5\frac{3}{9} = \frac{73}{9} + \frac{43}{9} + \frac{48}{9} = \frac{73+43+48}{9} = \frac{164}{9} = 18\frac{2}{9}$
3. (i)  $\frac{8}{9} - \frac{13}{15} = \frac{40-39}{45} = \frac{1}{45}$  (ii)  $\frac{6}{11} - \frac{4}{9} = \frac{54-44}{99} = \frac{10}{99}$
- (iii)  $\frac{5}{9} - \frac{3}{7} = \frac{35-27}{63} = \frac{8}{63}$  (iv)  $\frac{8}{11} - \frac{2}{3} = \frac{24-22}{33} = \frac{2}{33}$
4. (i)  $1\frac{3}{8}$  from  $5\frac{7}{8} = \frac{47}{8} - \frac{11}{8} = \frac{47-11}{8} = \frac{36}{8} = \frac{9}{2} = 4\frac{1}{2}$
- (ii)  $19\frac{1}{3}$  from  $23\frac{4}{5} = \frac{119}{5} - \frac{58}{3} = \frac{357-290}{15} = \frac{67}{15} = 4\frac{7}{15}$
- (iii)  $1\frac{3}{8}$  from  $7\frac{5}{20} = \frac{145}{20} - \frac{11}{8} = \frac{290-55}{40} = \frac{235}{40} = \frac{47}{8} = 5\frac{7}{8}$
- (iv)  $2\frac{1}{12}$  from  $3\frac{3}{8} = \frac{27}{8} - \frac{25}{12} = \frac{81-50}{24} = \frac{31}{24} = 1\frac{7}{24}$
5. (i)  $\frac{9}{16} + \frac{7}{4} + \frac{8}{8} = \frac{9+28+16}{16} = \frac{53}{16}$
- (ii)  $\frac{11}{24} + \frac{2}{3} - \frac{5}{8} = \frac{11+16-15}{24} = \frac{27-15}{24} = \frac{12}{24} = \frac{1}{2}$
- (iii)  $4\frac{5}{8} - 3\frac{3}{4} + 1\frac{7}{12} = \frac{37}{8} - \frac{15}{4} + \frac{19}{12} = \frac{111-90+38}{24} = \frac{21+38}{24} = \frac{59}{24} = 2\frac{11}{24}$

### Exercise 12.6

1. Reena purchased tape for Suresh =  $\frac{6}{8}$  m  
 She purchased tape for Ramesh =  $\frac{7}{8}$  m  
 Total tape purchased by her =  $\frac{6}{8} + \frac{7}{8} = \frac{6+7}{8} = \frac{13}{8} = 1\frac{5}{8}$  m

2. Pragya drank milk in a day =  $\frac{7}{10}$  L  
 Dipali drank milk in a day =  $\frac{6}{10}$  L  
 $\therefore$  Pragya drank milk more =  $\frac{7}{10} - \frac{6}{10} = \frac{7-6}{10} = \frac{1}{10}$  L
3. Shanu purchased wheat =  $\frac{2}{5}$  kg  
 His brother purchased wheat =  $\frac{3}{5}$  kg  
 Total weight of wheat bought by both of them =  $\frac{2}{5} + \frac{3}{5}$   
 $= \frac{2+3}{5} = \frac{5}{5} = 1$  kg
4. Raju reads his book in the school =  $\frac{3}{7}$   
 He reads his book at home =  $\frac{2}{7}$   
 He reads the part of his book =  $\frac{3}{7} + \frac{2}{7} = \frac{3+2}{7}$   
 $= \frac{5}{7}$
5. Fraction of the students absent on a day =  $\frac{1}{6}$   
 Fraction of the students present on that day =  $\frac{6}{6} - \frac{1}{6} = \frac{6-1}{6} = \frac{5}{6}$
6. Time spent by the boy in writing =  $2\frac{2}{3} = \frac{8}{3}$  hours  
 Time spent by the boy in reading a lesson =  $1\frac{3}{5} = \frac{8}{5}$  hours  
 $\therefore$  He spent time altogether =  $\frac{8}{3} + \frac{8}{5} = \frac{40+24}{15}$   
 $= \frac{64}{15} = 4\frac{4}{15}$  hours
7. Ankit bought a trouser for = ₹  $5\frac{2}{7}$  ₹ = ₹  $\frac{37}{7}$   
 He bought a shirt for = ₹  $36\frac{1}{5} = ₹ \frac{181}{5}$   
 He spent money in all =  $\frac{37}{7} + \frac{181}{5}$   
 $= \frac{185+1267}{35} = \frac{1452}{35} = ₹ 41\frac{17}{35}$
8. You bought black ribbon =  $1\frac{1}{4}$  m =  $\frac{5}{4}$  m  
 You bought red ribbon =  $2\frac{3}{5}$  m =  $\frac{13}{5}$  m  
 Total ribbon bought by you =  $\frac{5}{4} + \frac{13}{5} = \frac{25+52}{20}$

$$= \frac{77}{20} = 3\frac{17}{20} \text{ m}$$

9. Width of Mr. Gupta's garage =  $3\frac{3}{5} \text{ m} = \frac{18}{5} \text{ m}$

Width of Mr. Gupta's car =  $2\frac{9}{10} = \frac{29}{10} \text{ m}$

The space left in the garage after parking his car =  $\frac{18}{5} - \frac{29}{10} = \frac{36 - 29}{10} = \frac{7}{10} \text{ m}$

10. Fraction of the people missed the party =  $\frac{1}{7}$

∴ Fraction of the people present in the party =  $\frac{7}{7} - \frac{1}{7}$   
 $= \frac{7-1}{7} = \frac{6}{7}$

11. Ram got money from his father = ₹  $7\frac{1}{4} = ₹ \frac{29}{4}$

He got from his mother = ₹  $5\frac{1}{2} = ₹ \frac{11}{2}$

Total money he got =  $\frac{29}{4} + \frac{11}{2}$   
 $= \frac{29 + 22}{4} = \frac{51}{4} = ₹ 12\frac{3}{4}$

12. Fraction of the chocolate bar the boy eats =  $\frac{3}{4}$

The chocolate bar left =  $\frac{4}{4} - \frac{3}{4} = \frac{4-3}{4} = \frac{1}{4}$

13. Manu buys sweets on Monday =  $8\frac{1}{2} \text{ kg} = \frac{17}{2} \text{ kg}$

The sweets by Wednesday morning =  $2\frac{3}{4} \text{ kg} = \frac{11}{4} \text{ kg}$

The sweets eaten by Manu =  $\frac{17}{2} - \frac{11}{4}$   
 $= \frac{34 - 11}{4} = \frac{23}{4} \text{ kg} = 5\frac{3}{4} \text{ kg}$

14. The girl bought a pen for = ₹  $4\frac{3}{4} = ₹ \frac{19}{4}$

She bought some copies for = ₹  $21\frac{1}{3} = ₹ \frac{64}{3}$

Money spent in all =  $\frac{19}{4} + \frac{64}{3}$   
 $= \frac{57 + 256}{12} = \frac{313}{12} = ₹ 26\frac{1}{12}$

<b>Exercise 13.1</b>
----------------------

- |   |  |
|---|--|
| (i) Zero point three five.                              | (ii) Zero point two two five.            |
| (iii) Six hundred point zero zero four.                 |  |
| (iv) Four hundred fifty four point eight seven six.     |  |
| (v) Fifteen point zero zero five.                       | (vi) Zero point seven (or seven tenths). |
| (vii) or (Five hundredths).                             | (viii) Four point one three three.       |
| (ix) Zero point zero zero one three.                    | (x) Three point zero three.              |
| (xi) Three hundred twenty five point seven seven seven. |  |
- |   |   |
|---|---|
| (i) $0 + \frac{5}{10} + \frac{7}{100}$                          | (ii) $30 + 5 + \frac{2}{10} + \frac{8}{100}$                        |
| (iii) $8 + \frac{6}{100}$                                       | (iv) $700 + 80 + 2 + \frac{5}{10} + \frac{5}{100} + \frac{2}{1000}$ |
| (v) $400 + \frac{2}{10} + \frac{5}{100} + \frac{2}{1000}$       | (vi) $200 + 50 + 5 + \frac{3}{10} + \frac{9}{100} + \frac{5}{1000}$ |
| (vii) $700 + 2 + \frac{5}{10} + \frac{2}{100} + \frac{2}{1000}$ | (viii) $600 + 60 + 6 + \frac{4}{10} + \frac{4}{100}$                |
- |                       |                         |                            |                              |
|-----------------------|-------------------------|----------------------------|------------------------------|
| (i) $\frac{65}{10}$   | (ii) $\frac{5}{10}$     | (iii) $\frac{50}{100}$     | (iv) $\frac{335}{100}$       |
| (v) $\frac{808}{100}$ | (vi) $\frac{257}{1000}$ | (vii) $\frac{45775}{1000}$ | (viii) $\frac{200002}{1000}$ |
- |            |            |             |              |
|------------|------------|-------------|--------------|
| (i) 0.08   | (ii) 7.5   | (iii) 0.7   | (iv) 5.55    |
| (v) 0.065  | (vi) 0.145 | (vii) 44.44 | (viii) 6.355 |
| (ix) 0.468 | (x) 9.678  |             |              |
- |                 |               |                 |                |
|-----------------|---------------|-----------------|----------------|
| (i) ₹ 37.65     | (ii) 6.400 kg | (iii) 15.055 kg | (iv) 12.600 L  |
| (v) 8.045 km    | (vi) ₹ 85.70  | (vii) ₹ 5.35    | (viii) 5.8 cm  |
| (ix) 225.155 km | (x) 8.8 cm    | (xi) 36.750 kg  | (xii) 29.065 L |

<b>Exercise 13.2</b>
----------------------

- Put  $>$ ,  $=$ ,  $<$  to make the statements true :
 

(i) $<$	(ii) $<$	(iii) $>$	(iv) $=$
(v) $>$	(vi) $<$	(vii) $>$	(viii) $<$
- |  |
|--|
| (i) 9.898, 19.52, 23.57, 63.78, 91.87, 512.201 |
| (ii) 0.205, 0.240, 0.406, 0.529, 0.580, 0.809  |
- Encircle the largest number :
 

(i) 42.556	(ii) 55.55	(iii) 98.89	(iv) 15.786
(v) 8.378	(vi) 625.35	(vii) 524.008	(viii) 765.15
(ix) 6.5	(x) 205.005		
- |   |
|---|
| (i) 2558.6, 407.83, 75.820, 25.837, 5.077             |
| (ii) 2255.876, 2255.786, 2255.768, 2255.687, 2255.678 |



5. (i) 25.07                      (ii) 6.750                      (iii) 19.57                      (iv) 45.005  
 (v) 8.25                              (vi) 5.885                      (vii) 8.874                      (viii) 50.003  
 (ix) 3.003                            (x) 0.024

**Exercise 13.3**

**1. Find the sum :**

$$\begin{array}{r} \text{(i)} \quad 6.505 \\ + \quad 3.111 \\ \hline 9.616 \end{array}$$

$$\begin{array}{r} \text{(ii)} \quad 0.234 \\ + \quad 0.345 \\ \hline 0.579 \end{array}$$

$$\begin{array}{r} \text{(iii)} \quad 18.018 \\ + \quad 7.346 \\ \hline 25.364 \end{array}$$

$$\begin{array}{r} \text{(iv)} \quad 12.555 \\ \quad 30.333 \\ + \quad 4.444 \\ \hline 47.332 \end{array}$$

$$\begin{array}{r} \text{(v)} \quad 15.660 \\ \quad 15.777 \\ + \quad 15.500 \\ \hline 46.937 \end{array}$$

$$\begin{array}{r} \text{(vi)} \quad 26.987 \\ \quad 55.876 \\ + \quad 14.765 \\ \hline 97.628 \end{array}$$

**2. Add :**

$$\begin{array}{r} \text{(i)} \quad 205.135 \\ \quad 55.090 \\ + \quad 5.135 \\ \hline 265.360 \end{array}$$

$$\begin{array}{r} \text{(ii)} \quad 2525.600 \\ \quad 3535.250 \\ + \quad 454.777 \\ \hline 6515.627 \end{array}$$

$$\begin{array}{r} \text{(iii)} \quad 5.680 \\ \quad 4.043 \\ + \quad 15.246 \\ \hline 24.969 \end{array}$$

$$\begin{array}{r} \text{(iv)} \quad 750.850 \\ \quad 444.088 \\ + \quad 333.555 \\ \hline 1528.493 \end{array}$$

$$\begin{array}{r} \text{(v)} \quad 235.650 \\ \quad 450.065 \\ + \quad 455.506 \\ \hline 1141.221 \end{array}$$

$$\begin{array}{r} \text{(vi)} \quad 355.005 \\ \quad 255.050 \\ + \quad 155.500 \\ \hline 765.555 \end{array}$$

**3. Subtract :**

$$\begin{array}{r} \text{(i)} \quad 0.45 \\ - \quad 0.45 \\ \hline 0.00 \end{array}$$

$$\begin{array}{r} \text{(ii)} \quad 0.789 \\ - \quad 0.678 \\ \hline 0.111 \end{array}$$

$$\begin{array}{r} \text{(iii)} \quad 66.777 \\ - \quad 55.502 \\ \hline 11.275 \end{array}$$

$$\begin{array}{r} \text{(iv)} \quad 55.786 \\ - \quad 34.504 \\ \hline 21.282 \end{array}$$

$$\begin{array}{r} \text{(v)} \quad 242.580 \\ - \quad 58.333 \\ \hline 184.247 \end{array}$$

$$\begin{array}{r} \text{(vi)} \quad 659.767 \\ - \quad 274.038 \\ \hline 385.729 \end{array}$$

**4. Find the differences :**

$$\begin{array}{r} \text{(i)} \quad 88.55 \\ - \quad 44.22 \\ \hline 44.33 \end{array}$$

$$\begin{array}{r} \text{(ii)} \quad 78.78 \\ - \quad 26.26 \\ \hline 52.52 \end{array}$$

$$\begin{array}{r} \text{(iii)} \quad 4545.60 \\ - \quad 3434.04 \\ \hline 1111.56 \end{array}$$

$$\begin{array}{r} \text{(iv)} \quad 86.440 \\ - \quad 54.245 \\ \hline 32.195 \end{array}$$

$$\begin{array}{r} \text{(v)} \quad 9.140 \\ - \quad 5.410 \\ \hline 3.730 \end{array}$$

$$\begin{array}{r} \text{(vi)} \quad 151.534 \\ - \quad 125.356 \\ \hline 26.178 \end{array}$$

**5. Evaluate :**

$$\begin{array}{r}
 \text{(i)} \quad 9.07 \\
 + 5.55 \\
 \hline
 14.62
 \end{array}
 \quad
 \begin{array}{r}
 7.342 \\
 + 0.50 \\
 \hline
 7.392
 \end{array}
 \quad
 \Rightarrow
 \quad
 \begin{array}{r}
 14.620 \\
 - 7.392 \\
 \hline
 7.228
 \end{array}$$

$$\begin{array}{r}
 \text{(ii)} \quad 456.606 \\
 + 26.006 \\
 \hline
 482.612
 \end{array}
 \quad
 \begin{array}{r}
 552.637 \\
 - 482.612 \\
 \hline
 70.025
 \end{array}$$

$$\begin{array}{r}
 \text{(iii)} \quad 2.002 \\
 + 4.040 \\
 \hline
 6.042
 \end{array}
 \quad
 \begin{array}{r}
 0.020 \\
 + 0.444 \\
 \hline
 0.464
 \end{array}
 \quad
 \Rightarrow
 \quad
 \begin{array}{r}
 6.042 \\
 - 0.464 \\
 \hline
 5.578
 \end{array}$$

$$\begin{array}{r}
 \text{(iv)} \quad 2349.489 \\
 + 4.005 \\
 \hline
 2353.494
 \end{array}
 \quad
 \begin{array}{r}
 2353.494 \\
 - 357.237 \\
 \hline
 1996.257
 \end{array}$$

$$\begin{array}{r}
 \text{6.} \quad 35.60 \\
 + 85.30 \\
 \hline
 120.90
 \end{array}
 \quad
 \begin{array}{r}
 500.00 \\
 - 120.90 \\
 \hline
 379.10
 \end{array}$$

7. One bag contains grain = 35.650 kg  
 Second bag contains grain = 25.600 kg  
 Third bag contains grain = +25.225 kg  
86.475 kg

8. Ramu had money = ₹335.85  
 He spent for VCD = - ₹55.75  
 Money left with him = ₹280.10

## 14. Measurement of Length

### Exercise 14.1

1. Fill in the blanks :
- |           |                |              |                   |
|-----------|----------------|--------------|-------------------|
| (i) Metre | (ii) Standard  | (iii) Metres | (iv) Non-standard |
| (v) 100   | (vi) Kilometre | (vii) 1000   | (viii) Length     |

**Exercis 14.2**

1. Convert into 'cm' :

(i) 45 m

$$\begin{aligned}1 \text{ metre} &= 100 \text{ cm} \\45 \times 100 &= 4500 \text{ cm}\end{aligned}$$

(ii) 18 m

$$\begin{aligned}1 \text{ m} &= 100 \text{ cm} \\18 \times 100 &= 1800 \text{ cm}\end{aligned}$$

(iii) 5 m

$$\begin{aligned}1 \text{ m} &= 100 \text{ cm} \\5 \times 100 &= 500 \text{ cm}\end{aligned}$$

(iv) 67 m 38 cm

$$\begin{aligned}1 \text{ m} &= 100 \text{ cm} \\(67 \times 100) \text{ cm} + 38 \text{ cm} \\&= 6738 \text{ cm}\end{aligned}$$

(v) 46 m 86 cm

$$\begin{aligned}1 \text{ m} &= 100 \text{ cm} \\(46 \times 100) \text{ cm} + 86 \\&= 4686 \text{ cm}\end{aligned}$$

(vi) 8 m 45 cm

$$\begin{aligned}1 \text{ m} &= 100 \text{ cm} \\(8 \times 100) \text{ cm} + 45 \text{ cm} \\&= 845 \text{ cm}\end{aligned}$$

(vii) 16 m 34 cm

$$\begin{aligned}1 \text{ m} &= 100 \text{ cm} \\(16 \times 100) \text{ cm} + 34 \text{ cm} \\&= 1600 + 34 = 1634 \text{ cm}\end{aligned}$$

(viii) 19 m 25 cm

$$\begin{aligned}1 \text{ m} &= 100 \text{ cm} \\(19 \times 100) \text{ cm} + 25 \text{ cm} \\&= 1925 \text{ cm}\end{aligned}$$

2. Convert into 'm' :

(i) 28 km

$$\begin{aligned}1 \text{ km} &= 1000 \text{ m} \\28 \times 1000 &= 28000 \text{ m}\end{aligned}$$

(ii) 17 km 230 m

$$\begin{aligned}1 \text{ km} &= 1000 \text{ m} \\(17 \times 1000) + 230 \\&= 17000 + 230 = 17230 \text{ m}\end{aligned}$$

(iii) 81 km 780 m

$$\begin{aligned}1 \text{ km} &= 1000 \text{ m} \\(81 \times 1000) + 780 \text{ m} \\&= 81000 + 780 = 81780 \text{ m}\end{aligned}$$

(iv) 6 km

$$\begin{aligned}1 \text{ km} &= 1000 \text{ m} \\6 \times 1000 &= 6000 \text{ m}\end{aligned}$$

(v) 46 km 520 m

$$\begin{aligned}1 \text{ km} &= 1000 \text{ m} \\(46 \times 1000) \text{ m} + 520 \text{ m} \\&= 46000 + 520 = 46520 \text{ m}\end{aligned}$$

(vi) 27 km 198 m

$$\begin{aligned}1 \text{ km} &= 1000 \text{ m} \\(27 \times 1000) \text{ m} + 198 \text{ m} \\&= 27000 + 198 = 27198 \text{ m}\end{aligned}$$

(vii) 91 km 38 m

$$\begin{aligned}1 \text{ km} &= 1000 \text{ m} \\(91 \times 1000) \text{ m} + 38 \text{ m} \\&= 91000 + 38 = 91038 \text{ m}\end{aligned}$$

(viii) 76 km 475 m

$$\begin{aligned}1 \text{ km} &= 1000 \text{ m} \\(76 \times 1000) \text{ m} + 475 \text{ m} \\&= 76000 + 475 = 76475 \text{ m}\end{aligned}$$

3. Convert into 'm' and 'cm' :

(i) 312 cm

$$\begin{aligned}1 \text{ m} &= 100 \text{ cm} \\(300 \div 100) \text{ m} + 12 \text{ cm} \\&= 3 \text{ m } 12 \text{ cm}\end{aligned}$$

(ii) 788 cm

$$\begin{aligned}1 \text{ m} &= 100 \text{ cm} \\(700 \div 100) \text{ m} + 88 \text{ cm} \\&= 7 \text{ m } 88 \text{ cm}\end{aligned}$$

(iii) 944 cm

$$\begin{aligned}1 \text{ m} &= 100 \text{ cm} \\(900 \div 100) \text{ m} + 44 \text{ cm} \\&= 9 \text{ m } 44 \text{ cm}\end{aligned}$$

(iv) 676 cm

$$\begin{aligned}1 \text{ m} &= 100 \text{ cm} \\(600 \div 100) \text{ m} + 76 \text{ cm} \\&= 6 \text{ m } 76 \text{ cm}\end{aligned}$$

(v) 465 cm

$$\begin{aligned}1 \text{ m} &= 100 \text{ cm} \\(400 \div 100) \text{ m} + 65 \text{ cm} \\&= 4 \text{ m } 65 \text{ cm}\end{aligned}$$

(vi) 9991 cm

$$\begin{aligned}1 \text{ m} &= 100 \text{ cm} \\(9900 \div 100) \text{ m} + 91 \text{ cm} \\&= 99 \text{ m } 91 \text{ cm}\end{aligned}$$

(vii) 6127 cm 1 m = 100 cm (6100 ÷ 100) m + 27 cm = 61 m 27 cm	(viii) 1134 cm 1 m = 100 cm (1100 ÷ 100) m + 34 cm = 11 m 34 cm	(ix) 2022 cm 1 m = 100 cm (2000 ÷ 100) m + 22 cm = 20 m 22 cm
---	--	--

4. Convert into 'km' :

(i) 2000 m 1 km = 1000 m 2000 ÷ 1000 = 2 km	(ii) 4000 m 1 km = 1000 m 4000 ÷ 1000 = 4 km	(iii) 5000 m 1 km = 1000 m 5000 ÷ 1000 = 5 km
(iv) 6000 m 1 km = 1000 m 6000 ÷ 1000 = 6 km	(v) 9000 m 1 km = 1000 m 9000 ÷ 1000 = 9 km	

5. Convert into 'km' and 'm' :

(i) 1248 m 1 km = 1000 m (1000 ÷ 1000) km + 248 m = 1 km 248 m	(ii) 1918 m 1 km = 1000 m (1000 ÷ 1000) km + 918 m = 1 km 918 m	(iii) 4309 m 1 km = 1000 m (4000 ÷ 1000) km + 309 m = 4 km 309 m
(iv) 5678 m 1 km = 1000 m (5000 ÷ 1000) km + 678 m = 5 km 678 m	(v) 4387 m 1 km = 1000 m (4000 ÷ 1000) km + 387 m = 4 km 387 m	(vi) 6703 m 1 km = 1000 m (6000 ÷ 1000) km + 703 m = 6 km 703 m
(vii) 7755 m 1 km = 1000 m (7000 ÷ 1000) km + 755 m = 7 km 755 m	(viii) 6892 m 1 km = 1000 m (6000 ÷ 1000) km + 892 m = 6 km 892 m	(ix) 8175 m 1 km = 1000 m (8000 ÷ 1000) km + 175 m = 8 km 175 m

6. Fill in the blanks :

(i) Divide	(ii) Metre	(iii) 100	(iv) km
------------	------------	-----------	---------

### Exercise 14.3

1. Add the following :

$\begin{array}{r} \text{(i)} \quad 45 \text{ m } 35 \text{ cm} \\ + 27 \text{ m } 45 \text{ cm} \\ \hline 72 \text{ m } 80 \text{ cm} \end{array}$	$\begin{array}{r} \text{(ii)} \quad 27 \text{ m } 82 \text{ cm} \\ + 19 \text{ m } 93 \text{ cm} \\ \hline 47 \text{ m } 75 \text{ cm} \end{array}$	$\begin{array}{r} \text{(iii)} \quad 90 \text{ m } 47 \text{ cm} \\ + 8 \text{ m } 52 \text{ cm} \\ \hline 98 \text{ m } 99 \text{ cm} \end{array}$	$\begin{array}{r} \text{(iv)} \quad 38 \text{ m } 45 \text{ cm} \\ + 19 \text{ m } 48 \text{ cm} \\ \hline 57 \text{ m } 93 \text{ cm} \end{array}$
--	---	---	---

$\begin{array}{r} \text{(v)} \quad 15 \text{ km } 418 \text{ m} \\ + 27 \text{ km } 192 \text{ m} \\ \hline 42 \text{ km } 610 \text{ m} \end{array}$	$\begin{array}{r} \text{(vi)} \quad 75 \text{ km } 790 \text{ m} \\ + 17 \text{ km } 185 \text{ m} \\ \hline 92 \text{ km } 975 \text{ m} \end{array}$	$\begin{array}{r} \text{(vii)} \quad 56 \text{ km } 283 \text{ m} \\ + 28 \text{ km } 555 \text{ m} \\ \hline 84 \text{ km } 838 \text{ m} \end{array}$	$\begin{array}{r} \text{(ix)} \quad 71 \text{ km } 178 \text{ m} \\ + 20 \text{ km } 486 \text{ m} \\ \hline 91 \text{ km } 664 \text{ m} \end{array}$
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2. Subtract the following :

$\begin{array}{r} \text{(i)} \quad 75 \text{ m } 35 \text{ cm} \\ - 38 \text{ m } 45 \text{ cm} \\ \hline 36 \text{ m } 90 \text{ cm} \end{array}$	$\begin{array}{r} \text{(ii)} \quad 32 \text{ m } 05 \text{ cm} \\ - 18 \text{ m } 46 \text{ cm} \\ \hline 13 \text{ m } 59 \text{ cm} \end{array}$	$\begin{array}{r} \text{(iii)} \quad 88 \text{ m } 46 \text{ cm} \\ - 53 \text{ m } 98 \text{ cm} \\ \hline 34 \text{ m } 48 \text{ cm} \end{array}$	$\begin{array}{r} \text{(iv)} \quad 71 \text{ m } 50 \text{ cm} \\ - 46 \text{ m } 81 \text{ cm} \\ \hline 24 \text{ m } 69 \text{ cm} \end{array}$
--	---	--	---

$\begin{array}{r} \text{(v)} \quad 40 \text{ km } 137 \text{ m} \\ - 38 \text{ km } 368 \text{ m} \\ \hline 1 \text{ km } 769 \text{ m} \end{array}$	$\begin{array}{r} \text{(vi)} \quad 95 \text{ km } 705 \text{ m} \\ - 76 \text{ km } 977 \text{ m} \\ \hline 18 \text{ km } 728 \text{ m} \end{array}$	$\begin{array}{r} \text{(vii)} \quad 53 \text{ km } 481 \text{ m} \\ - 48 \text{ km } 581 \text{ m} \\ \hline 4 \text{ km } 900 \text{ m} \end{array}$	$\begin{array}{r} \text{(viii)} \quad 67 \text{ km } 290 \text{ m} \\ - 23 \text{ km } 786 \text{ m} \\ \hline 43 \text{ km } 504 \text{ m} \end{array}$
--	--	--	--

3. Find the sum of the following in your notebook :

$\begin{array}{r} \text{(i)} \quad 75 \text{ m } 40 \text{ cm} \\ + 48 \text{ m } 48 \text{ cm} \\ \hline 123 \text{ m } 88 \text{ cm} \end{array}$	$\begin{array}{r} \text{(ii)} \quad 31 \text{ m } 47 \text{ cm} \\ + 45 \text{ m } 45 \text{ cm} \\ \hline 76 \text{ m } 92 \text{ cm} \end{array}$	$\begin{array}{r} \text{(iii)} \quad 19 \text{ km } 248 \text{ m} \\ 23 \text{ km } 456 \text{ m} \\ + 46 \text{ km } 712 \text{ m} \\ \hline 89 \text{ km } 416 \text{ m} \end{array}$
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4. Subtract the following in your notebook :

$\begin{array}{r} \text{(i)} \quad 3 \text{ km } 5 \text{ m } 0 \text{ cm } 0 \text{ mm} \\ - 1 \text{ km } 1 \text{ m } 5 \text{ cm } 1 \text{ mm} \\ \hline 2 \text{ km } 3 \text{ m } 4 \text{ cm } 9 \text{ mm} \end{array}$	$\begin{array}{r} \text{(ii)} \quad 9 \text{ m } 0 \text{ cm } 1 \text{ mm} \\ - 3 \text{ m } 8 \text{ cm } 4 \text{ mm} \\ \hline 5 \text{ m } 1 \text{ cm } 7 \text{ mm} \end{array}$
$\begin{array}{r} \text{(iii)} \quad 7 \text{ m } 1 \text{ cm } 1 \text{ mm} \\ - 4 \text{ m } 2 \text{ cm } 6 \text{ mm} \\ \hline 2 \text{ m } 8 \text{ cm } 5 \text{ mm} \end{array}$	$\begin{array}{r} \text{(iv)} \quad 9 \text{ km } 0 \text{ m } 1 \text{ cm} \\ - 7 \text{ km } 2 \text{ m } 4 \text{ cm} \\ \hline 1 \text{ km } 7 \text{ m } 6 \text{ cm} \end{array}$

### Exercise 14.4

1. A sac of rice weights = 99 kg 999 g  
 No. of sacs = \_\_\_\_\_  $\times$  6  
 $\therefore$  Total weight of 6 such sacs = 599 kg 994 g
2. Length of piece of cloth = 8 m 64 cm  
 No. of equal parts = 4  
 Length of each strip = 8 m 64 cm  $\div$  4  
 = 2 m 16 cm

3. Anu travelled to reach her school = 500 m  
 Distance she travelled to reach her granny's house = + 1 km 750 m  
 Total distance travelled by Anu = 2 km 250 m
4. Total distance = 75 km 000 m  
 Distance covered by the train = 35 km 475 m  
 Remaining distance the train has to cover = 39 km 525 m
5. 7 m 25 cm is less than 10 m  

$$\begin{array}{r} = 10 \text{ m } 00 \text{ cm} \\ - 7 \text{ m } 25 \text{ cm} \\ \hline 2 \text{ m } 75 \text{ cm} \end{array}$$
6. Sum of 74 km 225 m and 28 km 376 m :
- |                      |                      |
|----------------------|----------------------|
| 74 km 225 m          | 102 km 601 m         |
| <u>+ 28 km 376 m</u> | <u>- 52 km 167 m</u> |
| Sum = 102 km 601 m   | 50 km 434 m          |

## 15.

## Time and Calendar

### Exercise 15.1

Do yourself.

### Exercise 15.2

- Write the time using a.m. or p.m.  
 (i) 12:40 am                      (ii) 3:10 pm                      (iii) 10:00 am  
 (iv) 7:30 pm                      (v) 11:30 am
- Write a.m. or p.m. to make these sentences correct :  
 (i) p.m.                      (ii) a.m.                      (iii) a.m.                      (iv) a.m.                      (v) p.m.
- Write the given times, using a.m. or p.m. :  
 (i) p.m.                      (ii) a.m.                      (iii) p.m.                      (iv) a.m.                      (v) p.m.
- Read the time and write using a.m. or p.m. :  
 7.00 am                      8.00 am                      2.00 pm                      5.00 pm                      10.00 pm

### Exercise 15.3

- (i) 8:30 pm and 9:12 pm = 42 minutes                      (ii) 5 hours                      (iii) 3 hours  
 (iv) 3 hours 55 minutes                      (v) 5 hours 45 minutes
- The train leaves Delhi for Kanpur at = 6 hours 30 min  
 Time taken by the train to reach Kanpur = + 6 hours 00 min  
 Train will reach Kanpur = 12 hours 30 min = 12 : 30 p.m.
- Neetu travelled by train for = 6 hours 25 min  
 he travelled another train for = + 3 hours 45 min  
 Total time she travel in all = 10 hours 10 min

4. Rohit goes to his school at = 7: 45 am

He comes back home at =  $\underline{13: 30 \text{ pm}}$   
 $\underline{5 \text{ hours } 45 \text{ min}}$

5. An evening show starts at = 6:30 pm

Show runs for = 2 hours 45 min

Show will end at = 9:15 pm

6. We have to find time interval between 9 hours 50 min and 15 hours 45 min.

$$\begin{array}{r} \text{hours} \quad \text{min} \\ 15 \text{ - } 45 \\ - 9 \text{ - } 50 \\ \hline 5 \text{ - } 55 \end{array}$$

7. We have to find time duration between 9 hours 10 min and 18 hours 0.5 min.

$$\begin{array}{r} \text{hours} \quad \text{min} \\ 18 \text{ - } 05 \\ - 9 \text{ - } 10 \\ \hline 8 \text{ - } 55 \end{array}$$

Mr. Mayank remained away from home for =  $\underline{8 \text{ - } 55}$

8. We have to find time duration between 6 hours 25 min and 14 hours 00 min.

$$\begin{array}{r} \text{hours} \quad \text{min} \\ 14 \text{ - } 00 \\ - 6 \text{ - } 25 \\ \hline 7 \text{ - } 35 \end{array}$$

Roma studies daily for =  $\underline{7 \text{ - } 35}$

#### Exercise 15.4

1. (i) Days left out in June =  $30 - 11 = 19$

Days in July = 31

Day in July-August = 1

Total number of days =  $19 + 31 + 1$

= 51 days

So, there are 51 days from 12th June to 1st August.

(ii) Days left out in January =  $31 - 13 = 18$

Days in February = 11

Total number of days =  $18 + 11 = 29$

So, total no. of days from 14th January to 11 February = 29 days

(iii) Days left out in September =  $30 - 23 = 7$

Days in October = 31

Days in November = 5

Total number of days =  $7 + 31 + 5 = 43$  days

So there are 43 days from 24th September to 5th November.

(iv) Days left out in October =  $31 - 1 = 30$

Days in November = 19

Total number of days =  $30 + 19 = 49$  days

So, there are 49 days 2nd October to 19th November.

2. Days left in April =  $30 - 6 = 24$   
 Days in May = 31  
 Days in June = 30  
 Days in July = 31  
 Days in August = 31  
 Days in September = 30  
 Days in October = 31  
 Days in November = 30  
 Days in December = 17  
 Total days =  $24 + 31 + 30 + 31 + 31 + 30 + 31 + 30 + 17 = 255$   
 Swati studies 255 days in the school.
3. The days left in September =  $30 - 11 = 19$   
 Days in October = 31  
 Days in November = 10  
 Total days =  $31 + 19 + 10 = 60$  days  
 Mr. John remained 60 days out of country.
4. Days in March = 5  
 Days in February = 28  
 Total days =  $28 + 5 = 33$  days  
 Days of January = 2 days =  $33 + 2 = 35$  days  
 Neha should start revision from = 30th January
5. Days left out in May =  $31 - 15 = 16$  days  
 Days in June = 15  
 Total days =  $15 + 16 = 31$  days  
 Meena remained in 31 days in the hospital.
6. Day of joining the publishing house = 10th January  
 Days left in January =  $31 - 9 = 22$   
 No. of days he worked = 35  
 No. of days in February =  $35 - 22 = 13$   
 Ajay left the publishing house on = 14th February
7. Days in September = 14 days  
 Days in October = 3 days  
 Total days Rahul remained on leave =  $14 + 3 = 17$  days
8. Mr. Verma went on a tour on = 18th July  
 Days in July =  $31 - 17 = 14$   
 Days in August =  $25 - 14 = 11$   
 He returned after days = 25 days  
 He returned = 12th August.
-



## 16.

## Geometrical Shapes

### Exercise 16.1

- Do yourself.
- Write which of the following is a line, ray or line segment :  
(i) Ray (ii) Line-segment (iii) Line
- Fill in the blanks :  
(a) neither, nor (b) one, no (c) one, one (d) many  
(e) two (f) one (g) no (h) two
- (i) Points : A, B, C, D line-segment : AB, CD  
(ii) Points : P, Q, R line-segments = PQ, QR, RP  
(iii) Points = K, L, M, N line-segment : KL, MN, KM, LN

### Exercise 16.2

- (1) Do yourself (2) Do yourself  
(3) Do yourself (4) Do yourself

### Exercise 16.3

- Fill in the blanks :  
(i) Four, Four (ii) No, No (iii) Four, Four (iv) Three, Three
- Put a tick on the correct shape for each of the following :  
(i) Square (ii) Rectangle (iii) Circle (iv) Circle  
(v) Triangle
- Give examples of three objects which are in the shape of :  
(a) A cone : (i) Icecream (ii) Funnel (iii) Joker's cap  
(b) A cylinder : (i) LPG cylinder (ii) Flute (iii) Pipe
- Do yourself.

## 17.

## Perimeter

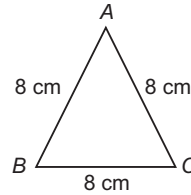
### Exercise 17.1

- (i)  $14 + 11 + 32 + 8 + 28 + 8 = 101$  cm (ii)  $12 + 15 + 6 + 9 + 6 + 6 = 54$  cm  
(iii)  $5 + 8 + 8 + 15 + 8 + 4 = 48$  cm (iv)  $6 + 5 + 7 = 18$  cm  
(v)  $27 + 5 + 10 + 12 + 10 + 5 + 27 + 5 + 12 + 12 + 12 + 5 = 142$  cm  
(vi)  $10 + 11 + 3 + 9 + 9 + 3 + 11 + 10 + 3 + 9 + 9 + 3 = 90$  cm
- (i)  $AB = 6$  cm,  $BC = 9$  cm,  $CA = 5$  cm  
Perimeter of triangle =  $AB + BC + CA$   
 $= 6 + 9 + 5 = 20$  cm  
(ii)  $AB = 7$  cm,  $BC = 6$  cm,  $CA = 4$  cm  
Perimeter of triangle =  $AB + BC + CA$   
 $= 7 + 6 + 4 = 17$  cm

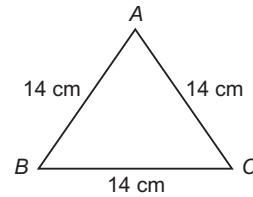
3. (i) Length = 17 cm, breadth = 14 cm  
 Perimeter of rectangle =  $2 \times (l + b)$   
 $= 2(17 + 14)$   
 $= 2 \times 31 = 62 \text{ cm}$

(ii) Length = 7 cm, breadth = 5 cm  
 Perimeter of rectangle =  $2(l + b)$   
 $= 2(7 + 5)$   
 $= 2 \times 12 = 24 \text{ cm}$

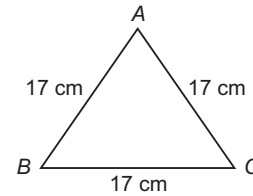
4. (i) 8 cm  
 Perimeter of triangle =  $AB + BC + CA$   
 $= 8 + 8 + 8 = 24 \text{ cm}$



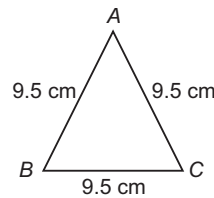
(ii) 14 cm  
 Perimeter of triangle =  $AB + BC + CA$   
 $= 14 + 14 + 14 = 42 \text{ cm}$



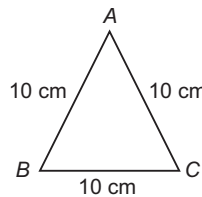
(iii) 17 cm  
 Perimeter of triangle =  $PQ + QR + PR$   
 $= 17 + 17 + 17 = 51 \text{ cm}$



(iv) 9.5 cm  
 Perimeter of triangle =  $AB + BC + AC$   
 $= 9.5 + 9.5 + 9.5 = 28.5$



(v) 10 cm  
 Perimeter of triangle =  $AB + BC + CA$   
 $= 10 + 10 + 10 = 30 \text{ cm}$



5. (i) 17.5 m  
 Perimeter of square =  $4 \times \text{side}$   
 $= 4 \times 17.5 = 70 \text{ m}$

(ii) 8.75 m  
 Perimeter of square =  $4 \times \text{side}$   
 $= 4 \times 8.75 = 35 \text{ m}$

(iii) 23 cm  
 Perimeter of square =  $4 \times \text{side}$   
 $= 4 \times 23 = 92 \text{ cm}$

(iv) 19 cm  
 Perimeter of square =  $4 \times \text{side}$   
 $= 4 \times 19 = 76 \text{ cm}$

(v) 10.25 m  
 Perimeter of square =  $4 \times \text{side}$   
 $= 4 \times 10.25 = 41 \text{ m}$

(vi) 30 cm  
 Perimeter of square =  $4 \times \text{side}$   
 $= 4 \times 30 = 120 \text{ cm}$

(vii) 9.50 m

$$\begin{aligned}\text{Perimeter of square} &= 4 \times \text{side} \\ &= 4 \times 9.50 = 38 \text{ m}\end{aligned}$$

(viii) 13.25 m

$$\begin{aligned}\text{Perimeter of square} &= 4 \times \text{side} \\ &= 4 \times 13.25 = 53 \text{ m}\end{aligned}$$

(ix) 40 cm

$$\begin{aligned}\text{Perimeter of square} &= 4 \times \text{side} \\ &= 4 \times 40 = 160 \text{ cm}\end{aligned}$$

6. Length of the square plot = 225 m

$$\begin{aligned}\therefore \text{Length of the wall constructed amount it} &= 4 \times 225 \text{ m} \\ &= 900 \text{ m}\end{aligned}$$

7. Perimeter of square park = 800 m

$$\begin{aligned}\text{Perimeter of square} &= 4 \times \text{side} \\ 800 &= 4 \times \text{side} \\ \text{Side} &= 800 \div 4 = 200 \text{ m}\end{aligned}$$

8. Perimeter of the rectangle = 600 m

Breadth of the rectangle = 100 m

$$\begin{aligned}\text{Perimeter of rectangle} &= 2 \times (l + b) \\ 600 &= 2(l + 100) \\ 300 &= l + 100 \\ l &= 300 - 100 = 200 \text{ m}\end{aligned}$$

9. The side of the square field = 240 m

$$\text{Perimeter of square field} = 4 \times 240 = 960 \text{ m}$$

A farmer walks around its boundry twice

$$\text{So, total distance he has to cover} = 2 \times 960 = 1920 \text{ m}$$

10. Length of rectangular park = 257 m

Breadth of rectangular park = 210 m

$$\begin{aligned}\text{Perimeter of the rectangular} &= 2 \times (l + b) \\ &= 2(257 + 210) \\ &= 2(467) = 934 \text{ m}\end{aligned}$$

11. Perimeter of the rectangular field = 72 m

Length of the field = 25 m

$$\begin{aligned}\text{Perimeter of rectangle} &= 2 \times (l + b) \\ 72 &= 2(25 + b) \\ 36 &= 25 + b \quad \Rightarrow \quad b = 36 - 25 = 11 \text{ m}\end{aligned}$$

$\therefore$  Breadth of the field = 11 m.

12. Length of rectangular board = 152 cm

Breadth of rectangular board = 95 cm

$$\begin{aligned}\text{Perimeter of rectangular} &= 2 \times (l + b) \\ &= 2(152 + 95) \\ &= 2 \times 247 = 494 \text{ cm}\end{aligned}$$

