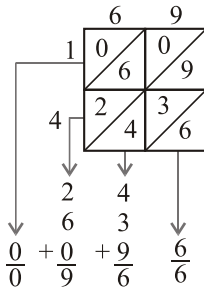
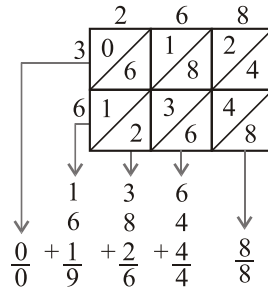


### Exercise 6.6

1. (a)



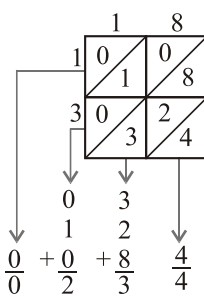
(b)



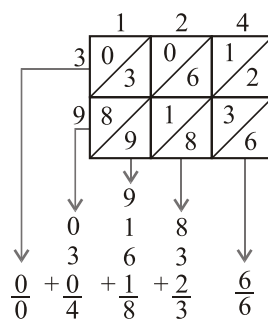
∴ The product is 966.

∴ The product is 9648.

2. (a)



(b)



∴  $13 \times 18 = 234$

∴  $124 \times 39 = 4836$

### MCQ's

1. (b) 2. (c) 3. (b) 4. (b) 5. (b).

### Worksheet

$25 \times 10 = 250$      $50 \times 10 = 500$      $485 \times 10 = 4850$   
 $558 \times 80 = 44640$      $5689 \times 2 = 11378$      $485 \times 18 = 8730$   
 $6000 \times 20 = 120000$      $789 \times 458 = 361362$      $258 \times 425 = 109650$      $75 \times 100 = 7500$   
 $254 \times 58 = 14732$      $505 \times 144 = 72720$      $54 \times 14 = 756$      $25 \times 25 = 625$   
 $102 \times 400 = 40800$      $31 \times 57 = 1767$   
 $248 \times 578 = 143344$      $888 \times 21 = 18648$      $418 \times 125 = 52250$      $279 \times 557 = 155403$

## 7. Division

### Exercise 7.1

1. (a)  $63 \div 7$

$$\begin{array}{r} 9 \\ 7 \overline{) 63} \\ \underline{- 63} \\ \times \end{array}$$

Quotient = 9,  
Remainder = 0

(b)  $91 \div 6$

$$\begin{array}{r} 15 \\ 6 \overline{) 91} \\ \underline{- 6} \\ 31 \\ \underline{- 30} \\ 1 \end{array}$$

Quotient = 15,  
Remainder = 0

(c)  $125 \div 5$

$$\begin{array}{r} 25 \\ 5 \overline{) 125} \\ \underline{- 10} \\ 25 \\ \underline{- 25} \\ \times \end{array}$$

Quotient = 25  
Remainder = 0

(d)  $89 \div 8$

$$\begin{array}{r} 11 \\ 8 \overline{) 89} \\ \underline{- 8} \\ 9 \\ \underline{- 8} \\ 1 \end{array}$$

Quotient = 11,  
Remainder = 1

(e)  $105 \div 9$

$$\begin{array}{r} 11 \\ 9 \overline{) 105} \\ \underline{- 90} \\ 15 \\ \underline{- 9} \\ 6 \end{array}$$

Quotient = 11,  
Remainder = 6

(f)  $265 \div 4$

$$\begin{array}{r} 66 \\ 4 \overline{) 265} \\ \underline{- 24} \\ 25 \\ \underline{- 24} \\ 1 \end{array}$$

Quotient = 66,  
Remainder = 1

### Exercise 7.2

1. (a)  $726 \div 1 = 726$

(b)  $1995 \div 1995 = 1$

(c)  $0 \div 125 = 0$

(d)  $1978 \div 1 = 1978$

(e)  $937 \div 937 = 1$

(f)  $0 \div 917 = 0$

2. (a)  $328 \div 5$

$$\begin{array}{r} 65 \\ 5 \overline{) 328} \\ \underline{- 30} \\ 28 \\ \underline{- 25} \\ 3 \end{array}$$

Dividend = 328  
Divisor = 5,  
Quotient = 65,  
Remainder = 3

**Check :** Dividend = Divisor  $\times$  Quotient + Remainder  
 $= 5 \times 65 + 3 = 325 + 3 = 328$

(b)  $617 \div 7$

$$\begin{array}{r} 88 \\ 7 \overline{) 617} \\ \underline{- 56} \\ 57 \\ \underline{- 56} \\ 1 \end{array}$$

Dividend = 617,  
 Divisor = 7,  
 Quotient = 88,  
 Remainder = 1

**Check :** Dividend = Divisor  $\times$  Quotient + Remainder  
 $= 7 \times 88 + 1 = 616 + 1 = 617$

(c)  $299 \div 6$

$$\begin{array}{r} 49 \\ 6 \overline{) 299} \\ \underline{- 24} \\ 59 \\ \underline{- 54} \\ 5 \end{array}$$

Dividend = 299,  
 Divisor = 6,  
 Quotient = 49,  
 Remainder = 5

**Check :** Dividend = Divisor  $\times$  Quotient + Remainder  
 $= 6 \times 49 + 5 = 294 + 5 = 299$

(d)  $565 \div 9$

$$\begin{array}{r} 62 \\ 9 \overline{) 565} \\ \underline{- 54} \\ 25 \\ \underline{- 18} \\ 7 \end{array}$$

Dividend = 565,  
 Divisor = 9,  
 Quotient = 62,  
 Remainder = 7

**Check :** Dividend = Divisor  $\times$  Quotient + Remainder  
 $= 9 \times 62 + 7 = 558 + 7 = 565$

### Exercise 7.3

1. (a)  $79 \div 10$

When we divide a number by 10, the last digit of the dividend will be the remainder and the number formed by the remaining digits of the dividend will be the quotient.

So, Quotient = 7, Remainder = 9

(b)  $424 \div 10$

When we divide a number by 10, the last digit of the dividend will be the remainder and the number formed by the remaining digits of the dividend will be the quotient.

So, Quotient = 42, Remainder = 4

- (c)  $998 \div 10$   
 When we divide a number by 10, the last digit of the dividend will be the remainder and the number formed by the remaining digits of the dividend will be the quotient.  
 So, Quotient = 99, Remainder = 8
- (d)  $9638 \div 100$   
 When we divide a number by 100, the last two digits of the dividend will be the remainder and the number formed by the remaining digits of the dividend will be the quotient.  
 So, Quotient = 96, Remainder = 38
- (e)  $5524 \div 100$   
 When we divide a number by 100, the last two digits of the dividend will be the remainder and the number formed by remaining digits will be the quotient.  
 So, Quotient = 55, Remainder = 24
- (f)  $3728 \div 100$   
 When we divide a number by 100, the last two digits of the dividend will be the remainder and the number formed by the remaining digits will be the quotient.  
 So, Quotient = 37, Remainder = 28
- (g)  $2089 \div 100$   
 When we divide a number by 1000, the last three digits of the dividend will be the remainder and the number formed by the remaining digits will be the quotient.  
 So, Quotient = 2, Remainder = 89
- (h)  $62154 \div 1000$   
 When we divide a number by 1000, the last three digits of the dividend will be the remainder and the number formed by the remaining digits of the dividend will be the quotient.  
 So, Quotient = 62, Remainder = 154
- (i)  $17878 \div 1000$   
 When we divide a number by 1000, the last three digits of the dividend will be the remainder and the number formed by the remaining digits of the dividend will be the quotient.  
 So, Quotient = 17, Remainder = 878.

### Exercise 7.4

1. (a)  $639 \div 3$

$$\begin{array}{r} 213 \\ 3 \overline{) 639} \\ \underline{-6} \phantom{00} \\ 3 \phantom{00} \\ \underline{-3} \phantom{00} \\ 9 \phantom{00} \\ \underline{-9} \phantom{00} \\ \phantom{00} \times \\ \phantom{00} \phantom{00} \end{array}$$

So, Quotient = 213,  
Remainder = 0

(b)  $8791 \div 9$

$$\begin{array}{r} 976 \\ 9 \overline{) 8791} \\ \underline{-81} \phantom{00} \\ 69 \phantom{00} \\ \underline{-63} \phantom{00} \\ 61 \phantom{00} \\ \underline{-54} \phantom{00} \\ \phantom{00} 7 \phantom{00} \end{array}$$

So, Quotient = 976,  
Remainder = 7

(c)  $9456 \div 8$

$$\begin{array}{r} 1182 \\ 8 \overline{) 9456} \\ \underline{-8} \phantom{00} \\ 14 \phantom{00} \\ \underline{-8} \phantom{00} \\ 65 \phantom{00} \\ \underline{-64} \phantom{00} \\ \phantom{00} 16 \phantom{00} \\ \underline{-16} \phantom{00} \\ \phantom{00} \phantom{00} \times \\ \phantom{00} \phantom{00} \phantom{00} \end{array}$$

So, Quotient = 1182,  
Remainder = 0

(d)  $3691 \div 5$

$$\begin{array}{r} 738 \\ 5 \overline{) 3691} \\ \underline{-35} \phantom{00} \\ 19 \phantom{00} \\ \underline{-15} \phantom{00} \\ 41 \phantom{00} \\ \underline{-40} \phantom{00} \\ 1 \end{array}$$

So, Quotient = 738,  
Remainder = 1

(e)  $9813 \div 3$

$$\begin{array}{r} 3271 \\ 3 \overline{) 9813} \\ \underline{-9} \phantom{00} \\ 8 \phantom{00} \\ \underline{-6} \phantom{00} \\ 21 \phantom{00} \\ \underline{-21} \phantom{00} \\ 3 \phantom{00} \\ \underline{-3} \phantom{00} \\ \times \end{array}$$

So, Quotient = 3271,  
Remainder = 0

(f)  $8000 \div 6$

$$\begin{array}{r} 1333 \\ 6 \overline{) 8000} \\ \underline{-6} \phantom{00} \\ 20 \phantom{00} \\ \underline{-18} \phantom{00} \\ 20 \phantom{00} \\ \underline{-18} \phantom{00} \\ 20 \phantom{00} \\ \underline{-18} \phantom{00} \\ 2 \end{array}$$

So, Quotient = 1333,  
Remainder = 2

2. (a)  $607 \div 17$

$$\begin{array}{r} 35 \\ 17 \overline{) 607} \\ \underline{-51} \phantom{00} \\ 97 \phantom{00} \\ \underline{-85} \phantom{00} \\ 12 \end{array}$$

So, Quotient = 35,  
Remainder = 12

(b)  $759 \div 15$

$$\begin{array}{r} 50 \\ 15 \overline{) 759} \\ \underline{-75} \phantom{00} \\ 9 \end{array}$$

So, Quotient = 50,  
Remainder = 9

(c)  $348 \div 12$

$$\begin{array}{r} 29 \\ 12 \overline{) 348} \\ \underline{-24} \phantom{00} \\ 108 \phantom{00} \\ \underline{-108} \phantom{00} \\ \times \end{array}$$

So, Quotient = 29,  
Remainder = 0

(d)  $3865 \div 16$

$$\begin{array}{r} 241 \\ 16 \overline{) 3865} \\ \underline{-32} \phantom{00} \\ 66 \phantom{00} \\ \underline{-64} \phantom{00} \\ 25 \phantom{00} \\ \underline{-16} \phantom{00} \\ 9 \end{array}$$

So, Quotient = 241,  
Remainder = 9

(e)  $746 \div 18$

$$\begin{array}{r} 41 \\ 18 \overline{) 746} \\ \underline{-72} \phantom{00} \\ 26 \phantom{00} \\ \underline{-18} \phantom{00} \\ 8 \end{array}$$

So, Quotient = 41,  
Remainder = 8

(f)  $62817 \div 11$

$$\begin{array}{r} 5710 \\ 11 \overline{) 62817} \\ \underline{-55} \phantom{00} \\ 78 \phantom{00} \\ \underline{-77} \phantom{00} \\ 11 \phantom{00} \\ \underline{-11} \phantom{00} \\ 7 \end{array}$$

So, Quotient = 5710,  
Remainder = 7

### Exercise 7.5

1.  $\therefore$  Number of people in 6 sections = 1146  
 $\therefore$  Number of people in 1 section =  $1146 \div 6$   
 $= 191$  people  
So, 191 people are sitting in each section.

$$\begin{array}{r} 191 \\ 6 \overline{) 1146} \\ \underline{-6} \phantom{00} \\ 54 \phantom{00} \\ \underline{-54} \phantom{00} \\ 6 \phantom{00} \\ \underline{-6} \phantom{00} \\ \times \end{array}$$

2. The product of two numbers = 9780

One number = 15

Other number =  $9780 \div 15$   
= 652

So, the other number is 652.

$$\begin{array}{r} 652 \\ 15 \overline{) 9780} \\ \underline{-90} \phantom{0} \\ 78 \\ \underline{-75} \\ 30 \\ \underline{-30} \\ \times \end{array}$$

3.  $\therefore$  Number of balls in 34 boxes = 6354  
 $\therefore$  Number of balls in 1 box =  $6354 \div 34$   
= 186

So, 186 balls will be filled in each box and 30 balls will be left out.

$$\begin{array}{r} 186 \\ 34 \overline{) 6354} \\ \underline{-34} \phantom{0} \\ 295 \\ \underline{-272} \\ 234 \\ \underline{-204} \\ 30 \\ \times \end{array}$$

4.  $\therefore$  Cost of 18 books = ₹ 8946  
 $\therefore$  Cost of 1 book =  $\text{₹ } 8946 \div 18$   
= ₹ 497

So, the cost of 1 book is ₹ 497.

$$\begin{array}{r} 497 \\ 18 \overline{) 8946} \\ \underline{-72} \phantom{0} \\ 174 \\ \underline{-162} \\ 126 \\ \underline{-126} \\ \times \end{array}$$

5.  $\therefore$  Weight of 54 bags = 6750 kg.  
 $\therefore$  Weight of 1 bag =  $6750 \div 54$   
= 125 kg.

So, the weight of 1 bag is 125 kg.

$$\begin{array}{r} 125 \\ 54 \overline{) 6750} \\ \underline{-54} \phantom{0} \\ 135 \\ \underline{-108} \\ 270 \\ \underline{-270} \\ \times \end{array}$$

6. Divisor = 24, Quotient = 263, Remainder = 19  
Dividend = Divisor  $\times$  Quotient + Remainder  
=  $24 \times 263 + 19 = 6312 + 19 = 6331$

7.  $\therefore$  Number of bags contained 16 shells = 1  
 $\therefore$  Number of bags contained 448 shells =  $448 \div 16$   
= 28 bags

So, she used 28 bags and no shells were remaining.

$$\begin{array}{r} 28 \\ 16 \overline{) 448} \\ \underline{-32} \phantom{0} \\ 128 \\ \underline{-128} \\ \times \end{array}$$

8.  $\therefore$  Number of pages for 19 photos = 1  
 $\therefore$  Number of pages for 650 photos =  $650 \div 19$   
= 34 pages

So, he needed 34 pages and 4 photo were remaining.

$$\begin{array}{r} 34 \\ 19 \overline{) 650} \\ \underline{-57} \phantom{0} \\ 80 \\ \underline{-76} \\ 4 \\ \times \end{array}$$

## MCQ's

1. (a) 2. (b) 3. (c) 4. (b).

## Worksheet

- No. of blocks in 2 red bags =  $407 \times 2 = 814$  blocks
- No. of blocks in 4 blue bags =  $143 \times 4 = 572$  blocks
- No. of blocks in  $(2 + 3 = 5)$  yellow bags =  $212 \times 5 = 1060$  blocks
- No. of blocks in 3 green bags =  $306 \times 3 = 918$   
Total blocks they used =  $814 + 572 + 1060 + 918 = 3364$  blocks

## 8. Unitary Method

### Exercise 8.1

1. (a)  $\because$  No. of flowers in 10 garlands = 130  
 $\therefore$  No. of flowers in 1 garland =  $130 \div 10 = 13$  flowers  
So, each garland has 13 flowers.

- (b)  $\because$  The cost of 6 books = ₹ 60  
 $\therefore$  The cost of 1 book = ₹  $60 \div 6$   
= ₹ 10  
 $\therefore$  The cost of 3 books = ₹  $10 \times 3$   
= ₹ 30  
So, the cost of 3 books is ₹ 30.

- (c)  $\because$  Cost of 8 litres of milk = ₹ 288  
 $\therefore$  Cost of 1 litre of milk = ₹  $288 \div 8$   
= ₹ 36  
 $\therefore$  Cost of 10 litres of milk = ₹  $36 \times 10$   
= ₹ 360  
So, 10 litres of milk will cost ₹ 360.

- (d)  $\because$  Weight of 2 bags = 18 kg.  
 $\therefore$  Weight of 1 bag =  $18 \div 2 = 9$  kg  
 $\therefore$  Weight of 12 bags =  $9 \times 12 = 108$  kg.  
So, 12 such bags weigh 108 kg.

2. 6 hours = 360 minutes  
1 hour =  $360 \div 6$  minutes = 60 minutes  
48 hours =  $48 \times 60$  minutes  
= 2880 minutes  
So, there are 2880 minutes in 48 hours.

3. Number of people carried in 4 boats = 80

$$\begin{aligned} \text{Number of people carried in 9 boats} &= \frac{80 \times 9}{4} \\ &= \frac{720}{4} = 180 \text{ people} \end{aligned}$$

So, 180 people can be carried in 9 such boats.

$$\begin{array}{r} 10 \\ 6 \overline{) 60} \\ \underline{-6} \phantom{0} \\ 0 \\ \underline{-0} \\ 0 \end{array}$$

$$\begin{array}{r} 36 \\ 8 \overline{) 288} \\ \underline{-24} \phantom{0} \\ 48 \\ \underline{-48} \\ 0 \\ \times \end{array}$$

$$\begin{array}{r} 60 \\ 6 \overline{) 360} \\ \underline{-36} \phantom{0} \\ 0 \\ \underline{-0} \\ 0 \\ \times \end{array}$$

4.  $\therefore$  The cost of 8 laptops = ₹ 1,68,000  
 $\therefore$  The cost of 1 laptop = ₹ 1,68,000  $\div$  8  
= ₹ 21,000

$$\begin{array}{r} 21000 \\ 8 \overline{) 168000} \\ \underline{-16} \phantom{000} \\ 8 \phantom{000} \\ \underline{-8} \phantom{000} \\ 000 \\ \underline{-000} \\ \phantom{000} \times \end{array}$$

- $\therefore$  The cost of 18 laptops =  $21,000 \times 18$   
=  $(21 \times 18) \times 1000$   
=  $378 \times 1000$   
= ₹ 3,78,000  
So, the cost of 18 laptops is 3,78,000.

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

5.  $\therefore$  Weight of 12 mangoes = 3060 grams  
 $\therefore$  Weight of 1 mango =  $3060 \div 12$   
= 255 grams  
 $\therefore$  Weight of 20 mangoes =  $255 \times 20$   
= 5100 grams  
So, the weight of 20 mangoes will be 5100 grams.

$$\begin{array}{r} 255 \\ 12 \overline{) 3060} \\ \underline{-24} \phantom{00} \\ 66 \phantom{0} \\ \underline{-60} \phantom{0} \\ 60 \\ \underline{-60} \\ \phantom{60} \times \end{array}$$

6.  $\therefore$  The cost of 18 shirts = ₹ 5850  
 $\therefore$  The cost of 1 shirt = ₹ 5850  $\div$  18  
= ₹ 325

$$\begin{array}{r} 325 \\ 18 \overline{) 5850} \\ \underline{-54} \phantom{00} \\ 45 \phantom{0} \\ \underline{-36} \phantom{0} \\ 90 \\ \underline{-90} \\ \phantom{90} \times \end{array}$$

- $\therefore$  The cost of 35 shirts = ₹ 325  $\times$  35  
= ₹ 11,375  
So, ₹ 11,375 should be paid.

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

7.  $\therefore$  Distance covered in 4 hours = 240 km.  
 $\therefore$  Distance covered in 1 hour =  $240 \div 4$   
= 60 km.  
 $\therefore$  Distance covered in 3 hours =  $60 \times 3$   
= 180 km.

$$\begin{array}{r} 60 \\ 4 \overline{) 240} \\ \underline{-24} \phantom{0} \\ 0 \\ \underline{-0} \\ \phantom{0} \times \end{array}$$

So, the car covers 180 km. in 3 hours.

8.  $\therefore$  The fair for 15 persons = ₹ 390  
 $\therefore$  The fair for 1 person = ₹ 390  $\div$  15  
= ₹ 26  
 $\therefore$  The fair for 26 persons =  $26 \times 26$   
= ₹ 676  
So, the fair for 26 persons is ₹ 676.

$$\begin{array}{r} 26 \\ 15 \overline{) 390} \\ \underline{-30} \phantom{0} \\ 90 \\ \underline{-90} \\ \phantom{90} \times \end{array}$$



9.  $\therefore$  The cost of 20 registers = ₹ 360  
 $\therefore$  The cost of 1 register = ₹  $360 \div 20$   
= ₹ 18

$$\begin{array}{r} 19 \\ 20 \overline{) 360} \\ \underline{-20} \\ 180 \\ \underline{-180} \\ \hline \end{array}$$

- $\therefore$  The cost of 23 registers = ₹  $18 \times 23$   
= ₹ 414  
So, the cost of 23 registers is ₹ 414.

$$\begin{array}{r} 18 \\ \times 23 \\ \hline 54 \\ 36 \times \\ \hline 414 \end{array}$$

10.  $\therefore$  The cost of 15 sarees = ₹ 3045.  
 $\therefore$  The cost of 1 saree = ₹  $3045 \div 15 = ₹ 203$   
 $\therefore$  The cost of 5 sarees = ₹  $203 \times 5 = ₹ 1015$   
So, the cost of 5 sarees will be ₹ 1015.

### MCQ's

1. (b) 2. (b) 3. (c) 4. (a).

### Worksheet

1.  $\therefore$  Cost of 6 l of milk = ₹ 72  
 $\therefore$  Cost of 1 l of milk = ₹  $72 \div 6 = ₹ 12$   
So, he sold milk at ₹ 12 per l.
2. The money he earned = ₹ 768  
Cost of 1 l of milk = ₹ 12  
The milk he sold =  $768 \div 12 = 64$  l  
So, he sold 64 l of milk.
3.  $\therefore$  1 cow gives milk = 5 l  
 $\therefore$  5 cows give milk =  $5 \times 5 = 25$  l  
So, all the cows give 25 l of milk in one day.
4.  $\therefore$  Cost of 3 cows = ₹ 75,000  
 $\therefore$  Cost of 1 cow = ₹  $75,000 \div 3 = ₹ 25,000$   
So, he paid ₹ 25,000 for buying 1 cow.
5.  $\therefore$  The cost of 1 cow = ₹ 25,000  
 $\therefore$  The cost of 5 cows = ₹  $25,000 \times 5 = ₹ 1,25,000$

## 9. Multiples and Factors

### Exercise 9.1

1. (a) A multiple of any number is a number which can be exactly **divisible** by that number.  
(b) Every number is the multiple of 1.  
(c) A multiple of a number is always equal or **greater** than itself.  
(d) A number can have **infinite** multiples.
2. (a) 4 : 8, 12, **16, 20, 24** (b) 8 : 16, 24, **32, 40, 48**  
(c) 15 : 30, 45, **60, 75, 90** (d) 20 : 40, 60, **80, 100, 120**  
(e) 6 : 12, 18, **24, 30, 36** (f) 5 : 10, 15, **20, 25, 30**

3. (a)

$$\begin{array}{r} 8 \\ 8 \overline{) 69} \\ \underline{-64} \\ 5 \end{array}$$

Since remainder is not zero.  
So, 69 is not a multiple of 8.

(b)

$$\begin{array}{r} 25 \\ 5 \overline{) 125} \\ \underline{-10} \\ 25 \\ \underline{-25} \\ \times \end{array}$$

Since remainder is zero.  
So, 125 is a multiple of 5.

4. (a) 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  
 (b) Multiples of 6 : 6, 12, 18, 24, 30, 36, 42, 48, 54, 60  
 Multiples of 9 : 9, 18, 27, 36, 45, 54, 63, 72, 81, 90  
 (c) Multiples of 5 : 5, 10, 15, 20, 25, 30, 35, 40, 45, 50  
 Multiples of 6 : 6, 12, 18, 24, 30, 36, 42, 48, 54, 60  
 (d) 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
5. (a) True (b) False (c) True (d) True.

### Exercise 9.2

1. 4, 15, 25, 16, 7, 2, 6, 33, 36, 10, 57  
 93, 76, 41, 43, 60, 20, 12, 39, 68, 15, 100
2. 13, 6, 88, 55, 91, 7, 63, 46, 30, 97, 19  
 12, 25, 34, 92, 37, 81, 49, 33, 69, 54, 11

3. (a) 11, 13, 15, 17, 19, 21 (b) 129, 131, 133, 135, 137, 139  
 4. (a) 46, 48, 50, 52, 54, 56 (b) 112, 114, 116, 118, 120, 122  
 5. (a) 2 (b) 1 (c) 98 (d) 99

### Exercise 9.3

1. (a) Multiples of 2 = 2, 4, 6, 8, 10, 12, 14, 16, 18, ....  
 Multiples of 3 = 3, 6, 9, 12, 15, 18, ....  
 Common multiples of 2 and 3 = 6, 12, 18, .....  
 $\therefore$  LCM = 6
- (b) Multiples of 6 = 6, 12, 18, 24, 30, 36, .....  
 Multiples of 2 = 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, .....  
 Common multiples of 6 and 2 = 6, 12, 18, .....  
 $\therefore$  LCM = 6
- (c) Multiples of 4 = 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48, 52, 54, ....  
 Multiples of 9 = 9, 18, 27, 36, 45, 54, ....  
 Common multiples of 4 and 9 = 36, 54, ....  
 $\therefore$  LCM = 36

- (d) Multiples of 12 = 12, 24, 36, 48, 60, 72, 84, 96,.....  
 Multiples of 9 = 9, 18, 27, 36, 45, 54, 63, 72, 81,....  
 Multiples of 6 = 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72, ....  
 Common multiples of 12, 9, 6 = 36, 72, ...  
 $\therefore$  LCM = 36
- (e) Multiples of 5 = 5, 10, 15, 20, 25, 30,....  
 Multiples of 10 = 10, 20, 30, 40, 50, 60,....  
 Multiples of 2 = 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, ....  
 Common multiples of 5, 10 and 2 = 10, 20, ...  
 $\therefore$  LCM = 10
- (f) Multiples of 8 = 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, .....  
 Multiples of 16 = 16, 32, 48, 64, 80, 96, 112, 128, 144, 160  
 Multiples of 20 = 20, 40, 60, 80, .....  
 Common multiples 8, 16 and 20 = 80, ...  
 $\therefore$  LCM = 80

2. Multiples of 12 = 12, 24, 36, 48, 60  
 Multiples of 15 = 15, 30, 45, 60, 75  
 Multiples of 20 = 20, 40, 60, 80, 100  
 The common multiple of 8, 16 and 20 = 60  
 $\therefore$  LCM = 60

3. (a) Multiples of 6 = 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72  
 (b) Multiples of 9 = 9, 18, 27, 36, 45, 54, 63, 72, 81  
 (c) Common multiples of 6 and 9 = 18, 36, 54, 72  
 (d) LCM of 6 and 9 = 18

### Exercise 9.4

1. (a)  $15 : 1 \times 15$   
 $3 \times 5$   
 Factors of 15 are 1, 3, 5, and 15.
- (b)  $20 : 1 \times 20$   
 $2 \times 10$   
 $4 \times 5$   
 Factors of 20 are 1, 2, 4, 5, 10 and 20.
- (c)  $24 : 1 \times 24$   
 $2 \times 12$   
 $3 \times 8$   
 $4 \times 6$   
 Factors of 24 are 1, 2, 3, 4, 6, 8, 12 and 24.
- (d)  $28 : 1 \times 28$   
 $2 \times 14$   
 $4 \times 7$   
 Factors of 28 are 1, 2, 4, 7, 14 and 28.
- (e)  $32 : 1 \times 32$   
 $2 \times 16$   
 $4 \times 8$   
 Factors of 32 are 1, 2, 4, 8, 16 and 32.
- (f)  $45 : 1 \times 45$   
 $3 \times 15$   
 $5 \times 9$   
 Factors of 45 are 1, 3, 5, 9, 15 and 45.

2. (a)  $12 : 12 \div 1 = 12$   
 $12 \div 2 = 6$   
 $12 \div 3 = 4$   
 Factors of 12 are 1, 2, 3, 4, 6 and 12.
- (b)  $18 : 18 \div 1 = 18$   
 $18 \div 2 = 9$   
 $18 \div 3 = 6$   
 Factors of 18 are 1, 2, 3, 6, 9 and 18.
- (c)  $36 : 36 \div 1 = 36$   
 $36 \div 2 = 18$   
 $36 \div 3 = 12$   
 $36 \div 4 = 9$   
 $36 \div 6 = 6$   
 Factors of 36 are 1, 2, 3, 4, 6, 9, 12, 18 and 36.
- (d)  $54 : 54 \div 1 = 54$   
 $54 \div 2 = 27$   
 $54 \div 3 = 18$   
 $54 \div 6 = 9$   
 Factors of 54 are 1, 2, 3, 6, 9, 18, 27 and 54.
- (e)  $63 : 63 \div 1 = 63$   
 $63 \div 3 = 21$   
 $63 \div 7 = 9$   
 Factors of 63 are 1, 3, 7, 9, 21 and 63.
- (f)  $81 : 81 \div 1 = 81$   
 $81 \div 3 = 27$   
 $81 \div 9 = 9$   
 Factors of 81 are 1, 3, 9, 27 and 81.
3. (a) Factors of 8 = 1, 2, 4, 8  
 Factors of 12 = 1, 2, 3, 4, 6, 12  
 Common factors of 8 and 12 = 1, 2, 4  
 $\therefore$  HCF of 8 and 12 = 4
- (b) Factors of 10 = 1, 2, 5, 10  
 Factors of 20 = 1, 2, 4, 5, 10, 20  
 Common factors of 10 and 20 = 1, 2, 5, 10  
 $\therefore$  HCF of 10 and 20 = 10
- (c) Factors of 15 = 1, 3, 5, 15  
 Factors of 20 = 1, 2, 5, 10, 20  
 Common factors of 15 and 20 = 1, 5  
 $\therefore$  HCF of 15 and 20 = 5
- (d) Factors of 40 = 1, 2, 4, 5, 8, 10, 20, 40  
 Factors of 48 = 1, 2, 3, 4, 6, 8, 12, 16, 24  
 Common factors of 40 and 48 = 1, 2, 4, 8  
 $\therefore$  HCF of 40 and 48 = 8
- (e) Factors of 16 = 1, 2, 4, 8, 16  
 Factors of 12 = 1, 2, 3, 4, 6, 12  
 Common factors of 16 and 12 = 1, 2, 4  
 $\therefore$  HCF of 16 and 12 = 4
- (f) Factors of 9 = 1, 3, 9  
 Factors of 12 = 1, 2, 3, 4, 6, 12  
 Common factors of 9 and 12 = 1, 3  
 $\therefore$  HCF of 9 and 12 = 3

- (g) Factors of 16 = 1, 2, 4, 8, 16  
 Factors of 24 = 1, 2, 3, 4, 6, 8, 12, 24  
 Factors of 32 = 1, 2, 4, 8, 16, 32  
 Common factors of 16, 24 and 32 = 1, 2, 4, 8  
 $\therefore$  HCF of 16, 24 and 32 = 8
- (h) Factors of 22 = 1, 2, 11, 22  
 Factors of 14 = 1, 2, 7, 14  
 Factors of 18 = 1, 2, 3, 6, 9, 18  
 Common factors of 22, 14 and 18 = 1, 2  
 $\therefore$  HCF of 22, 14 and 18 = 2

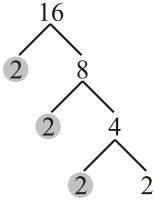
4. (a) True (b) False.

### Exercise 9.5

1. (a) 5  
 Factors of 5 = 1, 5  
 Since 5 has exactly two factors, itself and 1, therefore 5 is a prime number.
- (b) 15  
 Factors of 15 = 1, 3, 5, 15  
 Since 15 has more than two factors, therefore 15 is a composite number.
- (c) 27  
 Factors of 27 = 1, 3, 9, 27  
 Since 27 has more than two factors, therefore 27 is a composite number.
- (d) 31  
 Factors of 31 = 1, 31  
 Since 31 has exactly two factors, itself and 1, therefore 31 is a prime number.
- (e) 60  
 Factors of 60 = 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60  
 Since 60 has more than two factors, therefore 60 is a composite number.
- (f) 67  
 Factors of 67 = 1, 67  
 Since 67 has exactly two factors, itself and 1, therefore 67 is a prime number.
- (g) 95  
 Factors of 95 = 1, 5, 19  
 Since 95 has more than two factors, therefore 95 is a composite number.
- (h) 99  
 Factors of 99 = 1, 3, 9, 11, 99  
 Since 99 has more than two factors, therefore 99 is a composite number.
2. Prime numbers between 60–100 = 61, 67, 71, 73, 79, 83, 89, 97
3. (a) 2 is the only even prime number.  
 (b) 2 is the smallest prime number.  
 (c) 3 is the smallest odd prime number.

### Exercise 9.6

1. (a)



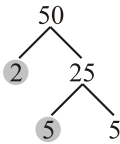
16 Prime factors of 16  
 $= 2 \times 2 \times 2 \times 2$

(b)



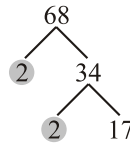
25 Prime factors of 25  
 $= 5 \times 5$

(c)



50 Prime factors of 50  
 $= 2 \times 5 \times 5$

(d)



68 Prime factors of 68  
 $= 2 \times 2 \times 17$

2. (a)

2	98
7	49
7	7
	1

Prime factorization of 98  
 $= 2 \times 7 \times 7$

(b)

3	81
3	27
3	9
3	3
	1

Prime factorization of 81  
 $= 3 \times 3 \times 3 \times 3$

(c)

2	72
2	36
2	18
3	9
3	3
	1

Prime factorization of 72  
 $= 2 \times 2 \times 2 \times 3 \times 3$

(d)

5	125
5	25
5	5
	1

Prime factorization of 125  
 $= 5 \times 5 \times 5$

### Exercise 9.7

1. (a) 118

118 is divisible by 2 since the last digit is 8.

(b) 325

If the last digit is 0, 2, 4, 6 or 8, the number is divisible by 2.

But 325 has 5 as last digit.

So, 325 is not divisible by 2.

- (c) 928  
928 is divisible by 2 since the last digit is 8.
- (d) 622  
622 is divisible by 2 since the last digit is 2.
2. (a) 804  
 $8 + 0 + 4 = 12$   
804 is divisible by 3 since 12 is divisible by 3.
- (b) 921  
 $9 + 2 + 1 = 12$   
921 is divisible by 3 since 12 is divisible by 3.
- (c) 500  
 $5 + 0 + 0 = 5$   
500 is not divisible by 3 since 5 is not divisible by 3.
- (d) 761  
 $7 + 6 + 1 = 14$   
761 is not divisible by 3 since 14 is not divisible by 3.
3. (a) 369  
 $3 + 6 + 9 = 18$   
369 is divisible by 9 since 18 is divisible by 9.
- (b) 270  
 $2 + 7 + 0 = 9$   
270 is divisible by 9 since 9 is divisible by 9.
- (c) 886  
 $8 + 8 + 6 = 22$   
886 is not divisible by 9 since 22 is not divisible by 9.
- (d) 666  
 $6 + 6 + 6 = 18$   
666 is divisible by 9 since 18 is divisible by 9.
4. (a) 840  
840 is divisible by 5 since the last digit is 0.
- (b) 954  
954 is not divisible by 5 since the last digit is neither 0 nor 5.
- (c) 595  
595 is divisible by 5 since the last digit is 5.
- (d) 322  
322 is not divisible by 5 since the last digit is neither 0 nor 5.

### MCQ's

1. (b) 2. (a) 3. (a) 4. (a) 5. (b).

### Worksheet

- Rabbits in Winner's Den have numbers which are common multiples of 3, 5 and 7.
- Is the number 6 a factor of these? **Yes**
- This shows that common multiples of 2 and 3 are multiples of 6.
- This also shows that a number with 6 as a factor, has 2 and 3 as its factors.

### Formative Assessment-2

1. (a) 2. (b) 3. (c) 4. (c) 5. (b) 6. (a) 7. (a) 8. (a) 9. (a) 10. (b).

### Summative Assessment-1

- Successor of 879319 is **879320**.
  - $99999 - 99999 = 0$
  - A number which has more than 2 factors is called **composite** number.
  - XLIX in Hindu-Arabic System is written as **49**.
- Eight lakh fifty four thousand eight hundred five.
  - Two million three hundred forty six thousand nine hundred fifty one.
- 9,789  
The hundreds digit  $7 > 5$   
So, 9789 is rounded off to 10,000.
  - 67,891  
The hundreds digit  $8 > 5$   
So, 67,891 is rounded off to 68,000.

4. Hindu-Arabic Numeral	10	16	20	40	22
Roman Numeral	X	XVI	XX	XL	XXII

- |       |   |   |   |   |   |
|-------|---|---|---|---|---|
| 4     | 5 | 1 | 0 | 8 |   |
| +     | 5 | 0 | 9 | 7 | 2 |
| <hr/> |   |   |   |   |   |
| 9     | 6 | 0 | 8 | 0 |   |
  - |       |   |   |   |   |   |
|-------|---|---|---|---|---|
| 8     | 3 | 5 | 2 | 7 |   |
| -     | 4 | 3 | 9 | 1 | 8 |
| <hr/> |   |   |   |   |   |
| 3     | 9 | 6 | 0 | 9 |   |

- LCM of 14, 16 and 18

2	14, 16, 18
2	7, 8, 9
2	7, 4, 9
2	7, 2, 9
3	7, 1, 9
3	7, 1, 3
7	7, 1, 1
	1, 1, 1

$$\text{LCM} = 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 7 = 1008$$

- HCF of 28 and 75

2	28
7	14
7	7
	1

3	75
5	25
5	5
	1

$$28 = 1 \times 2 \times 2 \times 7$$

$$75 = 1 \times 3 \times 5 \times 5$$

$$\text{HCF of 28 and 75} = 1$$



8. The population of the town = 9,76,325

Number of the men = 4,76,100

Number of the children = 2,46,900

Total number of the men and the children = 4,76,100 + 2,46,900 = 7,23,000

Total number of the women = 9,76,325 - 7,23,000 = 2,53,325

So, the population of women in this town is 2,53,325.

9. ∴ The cost of 1 washing machine = ₹ 8975

∴ The cost of 24 washing machines = ₹ 8975 × 24  
= ₹ 2,15,400

So, the cost of 24 washing machines is ₹ 2,15,00.

$$\begin{array}{r} 8975 \\ \times 24 \\ \hline 35900 \\ 179500 \\ \hline 215400 \end{array}$$

10. Total stickers = 2135

Number of stickers on one page = 35

Number of pages he used = 2135 ÷ 35 = 61

So, he used 61 pages in all.

$$\begin{array}{r} 61 \\ 35 \overline{) 2135} \\ \underline{-210} \phantom{0} \\ 35 \\ \underline{-35} \\ 0 \\ \times \end{array}$$

## 10. Fraction

### Exercise 10.1

1.



2. (a) Fraction =  $\frac{4}{8}$  → Numerator  
→ Denominator

(b) Fraction =  $\frac{3}{5}$  → Numerator  
→ Denominator

(c) Fraction =  $\frac{3}{9}$  → Numerator  
→ Denominator

(d) Fraction =  $\frac{3}{4}$  → Numerator  
→ Denominator

(e) Fraction =  $\frac{6}{7}$  → Numerator  
→ Denominator

(f) Fraction =  $\frac{4}{5}$  → Numerator  
→ Denominator

3. (a)  $\frac{3}{5}$

(b)  $\frac{5}{11}$

(c)  $\frac{4}{7}$

(d)  $\frac{5}{10}$

### Exercise 10.2

1. (a)  $\frac{2}{10} = \frac{4}{20} = \frac{6}{30} = \frac{8}{40}$

(b)  $\frac{1}{4} = \frac{2}{8} = \frac{12}{48} = \frac{16}{64}$

(c)  $\frac{3}{10} = \frac{6}{20} = \frac{12}{40} = \frac{15}{30}$

(d)  $\frac{6}{9} = \frac{12}{18} = \frac{18}{27} = \frac{48}{72}$

(e)  $\frac{6}{17} = \frac{12}{34} = \frac{36}{102} = \frac{54}{153}$

(f)  $\frac{11}{23} = \frac{44}{92} = \frac{55}{115} = \frac{88}{184}$

2. (a)  $\frac{3}{4} \times \frac{6}{12}$   
 $3 \times 12$  and  $4 \times 6$   
 $36 \neq 24$   
 So,  $\frac{3}{4}$  and  $\frac{6}{12}$  are not equivalent

(b)  $\frac{2}{3} \times \frac{8}{12}$   
 $2 \times 12$  and  $3 \times 8$   
 $24 = 24$   
 So,  $\frac{2}{3}$  and  $\frac{8}{12}$  are equivalent fractions.

(c)  $\frac{8}{10} \times \frac{40}{50}$   
 $8 \times 50$  and  $10 \times 40$   
 $400 = 400$   
 So,  $\frac{8}{10}$  and  $\frac{40}{50}$  are equivalent

(d)  $\frac{2}{3} \times \frac{42}{54}$   
 $2 \times 54$  and  $3 \times 42$   
 $108 \neq 126$   
 So,  $\frac{2}{3}$  and  $\frac{42}{54}$  are not equivalent

fractions.  
 (e)  $\frac{3}{6} \times \frac{6}{12}$   
 $3 \times 12$  and  $6 \times 6$   
 $36 = 36$   
 So,  $\frac{3}{6}$  and  $\frac{6}{12}$  are equivalent fractions.

### Exercise 10.3

1. (a)  $\frac{13}{7}, \frac{5}{6}, \frac{11}{6}, \frac{2}{8}, \frac{5}{3}, \frac{7}{6}, \frac{5}{3}$

(b)  $\frac{5}{9}, \frac{3}{4}, \frac{16}{9}, \frac{1}{5}, \frac{11}{9}, \frac{9}{8}, \frac{2}{3}$

2. (a)  $\frac{23}{38}, \frac{42}{54}, \frac{61}{36}, \frac{83}{100}, \frac{84}{75}$

(b)  $\frac{13}{20}, \frac{27}{21}, \frac{15}{37}, \frac{18}{82}, \frac{21}{17}$

3. (a)  $6\frac{3}{5} = \frac{33}{5}$

(b)  $3\frac{2}{6} = \frac{20}{6}$

(c)  $8\frac{1}{7} = \frac{57}{7}$

(d)  $4\frac{7}{9} = \frac{43}{9}$

(e)  $6\frac{1}{8} = \frac{49}{8}$

(f)  $11\frac{1}{2} = \frac{23}{2}$

4. (a)  $\frac{33}{8} = 4\frac{1}{8}$

(b)  $\frac{71}{7} = 10\frac{1}{7}$

(c)  $\frac{33}{6} = 5\frac{3}{6}$

$$\begin{array}{r} 4 \\ 8 \overline{) 33} \\ \underline{-32} \\ 1 \end{array}$$

$$\begin{array}{r} 10 \\ 7 \overline{) 71} \\ \underline{-7} \\ 1 \end{array}$$

$$\begin{array}{r} 5 \\ 6 \overline{) 33} \\ \underline{-30} \\ 3 \end{array}$$

(d)  $\frac{122}{9} = 13\frac{5}{9}$

(e)  $\frac{44}{3} = 14\frac{2}{3}$

(f)  $\frac{57}{7} = 8\frac{1}{7}$

$$\begin{array}{r} 13 \\ 9 \overline{) 122} \\ \underline{-9} \\ 32 \\ \underline{-27} \\ 5 \end{array}$$

$$\begin{array}{r} 14 \\ 3 \overline{) 44} \\ \underline{-3} \\ 14 \\ \underline{-12} \\ 2 \end{array}$$

$$\begin{array}{r} 8 \\ 7 \overline{) 57} \\ \underline{-56} \\ 1 \end{array}$$

5. (a)  $\frac{27}{42}$

3	27	2	42
3	9	3	21
3	3	7	7
	1		1

Prime factors of 27 =  $3 \times 3 \times 3$

Prime factors of 42 =  $2 \times 3 \times 7$

HCF = 3

$$\frac{27}{42} = \frac{27 \div 3}{42 \div 3} = \frac{9}{14}$$

(c)  $\frac{55}{125}$

5	55	5	125
11	11	5	25
	1	5	5
			1

Prime factors of 55 =  $5 \times 11$

Prime factors of 125 =  $5 \times 5 \times 5$

HCF = 5

$$\frac{55}{125} = \frac{55 \div 5}{125 \div 5} = \frac{11}{25}$$

(e)  $\frac{108}{216}$

2	108	2	216
2	54	2	108
3	27	2	54
3	9	3	27
3	3	3	9
	1	3	3
			1

Prime factors of 108 =  $2 \times 2 \times 3 \times 3 \times 3$

Prime factors of 216 =  $2 \times 2 \times 2 \times 3 \times 3 \times 3$

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

$$\frac{108}{216} = \frac{108 \div 108}{216 \div 108} = \frac{1}{2}$$

(b)  $\frac{56}{100}$

2	56	2	100
2	28	3	50
2	14	5	25
7	7	5	5
	1		1

Prime factors of 56 =  $2 \times 2 \times 2 \times 7$

Prime factors of 100 =  $2 \times 2 \times 5 \times 5$

HCF =  $2 \times 2 = 4$

$$\frac{56}{100} = \frac{56 \div 4}{100 \div 4} = \frac{14}{25}$$

(d)  $\frac{49}{77}$

7	49	7	77
7	7	11	11
	1		1

Prime factors of 49 =  $7 \times 7$

Prime factors of 77 =  $7 \times 11$

HCF = 7

$$\frac{49}{77} = \frac{49 \div 7}{77 \div 7} = \frac{7}{11}$$

(f)  $\frac{26}{39}$

2	26	3	39
13	13	13	13
	1		1

Prime factors of 26 =  $2 \times 13$

Prime factors of 39 =  $3 \times 13$

HCF = 13

$$\therefore \frac{26}{39} = \frac{26 \div 13}{39 \div 13} = \frac{2}{3}$$

### Exercise 10.4

1. (a)  $\frac{4}{7} < \frac{8}{7}$                       (b)  $\frac{11}{6} > \frac{10}{6}$                       (c)  $\frac{4}{5} = \frac{4}{5}$   
 (d)  $\frac{16}{3} > \frac{16}{5}$                       (e)  $\frac{9}{12} < \frac{9}{7}$                       (f)  $\frac{2}{4} < \frac{4}{5}$

2. (a) Ascending order :  $\frac{1}{7} < \frac{2}{7} < \frac{4}{7} < \frac{5}{7} < \frac{6}{7}$

(b) Ascending order :  $\frac{8}{17} < \frac{8}{15} < \frac{8}{13} < \frac{8}{11} < \frac{8}{9}$

(c) Multiples of 1 = 1, 2, 3,..... 55, 56, 57, 58, 59, 60 ,.....

Multiples of 3 = 3, 6, 9, 21, 15, 18,..... 30,..... 51, 54, 57, 60 ,....

Multiples of 4 = 4, 8, 12,.....40,.....52, 56, 60 ,....

Multiples of 5 = 5, 10, 15,.... 50, 55, 60

First common multiple of 1, 3, 4 and 5 = 60

∴ LCM = 60

$$\frac{1}{3} = \frac{1 \times 60}{3 \times 60} = \frac{60}{180}$$

$$\frac{3}{8} = \frac{3 \times 20}{8 \times 20} = \frac{60}{120}$$

$$\frac{5}{7} = \frac{5 \times 12}{7 \times 12} = \frac{60}{84}$$

$$\frac{1}{2} = \frac{1 \times 60}{2 \times 60} = \frac{60}{120}$$

$$\frac{4}{5} = \frac{4 \times 15}{5 \times 15} = \frac{60}{75}$$

Ascending order :  $\frac{60}{180} < \frac{60}{160} < \frac{60}{120} < \frac{60}{84} < \frac{60}{75}$

$$\frac{1}{3} < \frac{3}{8} < \frac{1}{2} < \frac{5}{7} < \frac{4}{5}$$

(d) Multiples of 5 = 5, 10,.....50,.....300, 310, 315 ,.....

Multiples of 9 = 9, 18,.....90,.....297, 306, 315 ,....

Multiples of 7 = 7, 14,.....70, 301, 308, 315 ,....

Multiples of 3 = 3, 6,.....30, .....309, 312, 315 ,...

First common multiple of 5, 9, 7 and 3 = 315.

∴ LCM = 315

$$\frac{5}{6} = \frac{5 \times 63}{6 \times 63} = \frac{315}{378}$$

$$\frac{9}{13} = \frac{9 \times 35}{13 \times 35} = \frac{315}{455}$$

$$\frac{3}{7} = \frac{3 \times 105}{7 \times 105} = \frac{315}{735}$$

$$\frac{7}{11} = \frac{7 \times 45}{11 \times 45} = \frac{315}{495}$$

$$\frac{1}{6} = \frac{1 \times 315}{6 \times 315} = \frac{315}{1890}$$

Ascending order :  $\frac{315}{1890} < \frac{315}{735} < \frac{315}{495} < \frac{315}{455} < \frac{315}{378}$

$$\frac{1}{6} < \frac{3}{7} < \frac{7}{11} < \frac{9}{13} < \frac{5}{6}$$

3. (a) Descending order :  $\frac{7}{8} > \frac{5}{8} > \frac{4}{8} > \frac{3}{8} > \frac{1}{8}$
- (b) Descending order :  $\frac{3}{4} > \frac{3}{5} > \frac{3}{6} > \frac{3}{7} > \frac{3}{9}$
- (c) Multiples of 1 = 1, 2, 3, ..., 178, 179, 180, ...  
 Multiples of 5 = 5, 10, 15, ..., 50, ..., 170, 175, 180, ...  
 Multiples of 9 = 9, 18, 27, ..., 90, ..., 162, 171, 180, ...  
 Multiples of 4 = 4, 8, 12, ..., 40, ..., 172, 176, 180, ...  
 First common multiple of 1, 5, 9, and 4 = 180  
 $\therefore$  LCM = 180

$$\frac{1}{4} = \frac{1 \times 180}{4 \times 180} = \frac{180}{720} \qquad \frac{5}{9} = \frac{5 \times 36}{9 \times 36} = \frac{180}{324}$$

$$\frac{9}{12} = \frac{9 \times 20}{12 \times 20} = \frac{180}{240} \qquad \frac{4}{7} = \frac{4 \times 45}{7 \times 45} = \frac{180}{315}$$

Descending order :  $\frac{180}{240} > \frac{180}{315} > \frac{180}{324} > \frac{180}{720}$   
 $\frac{9}{12} > \frac{4}{7} > \frac{5}{9} > \frac{1}{4}$

- (d) Multiple of 6 = 6, 12, ..., 60, ..., 624, 630, ...  
 Multiple of 7 = 7, 14, ..., 70, ..., 623, 630, ...  
 Multiple of 35 = 35, 70, ..., 350, 585, ..., 630, ...  
 Multiple of 9 = 9, 18, ..., 90, 621, ..., 630, ...

First common multiple of 6, 7, 35 and 9 = 630

$$\frac{5}{6} = \frac{5 \times 105}{6 \times 105} = \frac{525}{630} \qquad \frac{3}{7} = \frac{3 \times 90}{7 \times 90} = \frac{270}{630} \qquad \frac{17}{35} = \frac{17 \times 18}{35 \times 18} = \frac{306}{630}$$

$$\frac{4}{7} = \frac{4 \times 90}{7 \times 90} = \frac{360}{630} \qquad \frac{5}{9} = \frac{5 \times 70}{9 \times 70} = \frac{350}{630}$$

Descending order :  $\frac{525}{630} > \frac{360}{630} > \frac{350}{630} > \frac{306}{630} > \frac{270}{630}$   
 $\frac{5}{6} > \frac{4}{7} > \frac{5}{9} > \frac{17}{35} > \frac{3}{7}$

### Exercise 10.5

1. (a)  $\frac{15}{12} + \frac{6}{12} = \frac{15+6}{12} = \frac{21}{12} = 1\frac{9}{12}$
- (b)  $\frac{5}{6} + \frac{1}{2}$

Multiples of 6 = 6, 12, 18, 24,

Multiples of 12 = 12, 24, ...

LCM = 12

$$\frac{5}{6} = \frac{5 \times 2}{6 \times 2} = \frac{10}{12}$$

$$\therefore \frac{5}{6} + \frac{1}{12} = \frac{10}{12} + \frac{1}{12} = \frac{10+1}{12} = \frac{11}{12}$$

(c)  $\frac{3}{4} + \frac{3}{8}$

Multiples of 4 = 4, 8, 12, 16,....

Multiples of 8 = 8, 16, 24,....

LCM = 8

$$\frac{3}{4} = \frac{3 \times 2}{4 \times 2} = \frac{6}{8}$$

$$\therefore \frac{3}{4} + \frac{3}{8} = \frac{6}{8} + \frac{3}{8} = \frac{9}{8} = 1\frac{1}{8}$$

(d)  $\frac{9}{14} + \frac{6}{7}$

Multiple of 14 = 14, 28, 42,....

Multiple of 7 = 7, 14, 21,....

LCM = 14

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

$$\therefore \frac{9}{14} + \frac{6}{7} = \frac{9}{14} + \frac{12}{14} = \frac{9+12}{14} = \frac{21}{14} = 1\frac{7}{14}$$

(e)  $\frac{3}{10} + \frac{4}{15}$

Multiple of 10 = 10, 20, 30, 40,....

Multiple of 15 = 15, 30, 45, .....

LCM = 30

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

$$\frac{4}{15} = \frac{4 \times 2}{15 \times 2} = \frac{8}{30}$$

$$\therefore \frac{3}{10} + \frac{4}{15} = \frac{9}{30} + \frac{8}{30} = \frac{9+8}{30} = \frac{17}{30}$$

(f)  $\frac{7}{16} + \frac{5}{24}$

Multiple of 16 = 16, 32, 48, .....

Multiple of 24 = 24, 48, ..

LCM = 48

$$\frac{7}{16} = \frac{7 \times 3}{16 \times 3} = \frac{21}{48}$$

$$\frac{5}{24} = \frac{5 \times 2}{24 \times 2} = \frac{10}{48}$$

$$\therefore \frac{7}{16} + \frac{5}{24} = \frac{21}{48} + \frac{10}{48} = \frac{21+10}{48} = \frac{31}{48}$$

$$(g) \frac{5}{12} + \frac{1}{4}$$

Multiples of 12 = 12, 24, 36, ...

Multiples of 4 = 4, 8, 12, ...

LCM = 12

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

$$\therefore \frac{5}{12} + \frac{1}{4} = \frac{5}{12} + \frac{3}{12} = \frac{5+3}{12} = \frac{8}{12} = \frac{2}{3}$$

$$(h) \frac{11}{15} + \frac{1}{6}$$

Multiples of 15 = 15, 30, 45, ...

Multiples of 6 = 6, 12, 18, 24, 30, ...

LCM = 30

$$\frac{11}{15} = \frac{11 \times 2}{15 \times 2} = \frac{22}{30}$$

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

$$\therefore \frac{11}{15} + \frac{1}{6} = \frac{22}{30} + \frac{5}{30} = \frac{27}{30} = \frac{9}{10}$$

$$2. (a) 3\frac{1}{4}, 2\frac{2}{3}$$

Multiples of 4 = 4, 8, 12, 16, ...

Multiples of 3 = 3, 6, 9, 12, ...

LCM = 12

$$\therefore 3\frac{1}{4} = \frac{13}{4} = \frac{13 \times 3}{4 \times 3} = \frac{39}{12} \quad \text{and} \quad 2\frac{2}{3} = \frac{8}{3} = \frac{8 \times 4}{3 \times 4} = \frac{32}{12}$$

$$\therefore 3\frac{1}{4} + 2\frac{2}{3} = \frac{39}{12} + \frac{32}{12} = \frac{39+32}{12} = \frac{71}{12} = 5\frac{11}{12}$$

$$(b) 4\frac{1}{8}, 2\frac{1}{2}$$

Multiple of 8 = 8, 16, 24, ...

Multiple of 2 = 2, 4, 6, 8, 10, 12, ...

LCM = 8

$$4\frac{1}{8} = \frac{33}{8} \quad \text{and} \quad 2\frac{1}{2} = \frac{5}{2} = \frac{5 \times 4}{2 \times 4} = \frac{20}{8}$$

$$\therefore 4\frac{1}{8} + 2\frac{1}{2} = \frac{33}{8} + \frac{20}{8} = \frac{33+20}{8} = \frac{53}{8} = 6\frac{5}{8}$$

$$(c) 5\frac{1}{5}, 6\frac{1}{6}$$

Multiple of 5 = 5, 10, 15, 20, 25, 30, ...

Multiple of 6 = 6, 12, 18, 24, 30, ...

LCM = 30

$$5\frac{1}{5} = \frac{26}{5} = \frac{26 \times 6}{5 \times 6} = \frac{156}{30}$$

$$6\frac{1}{6} = \frac{37}{6} = \frac{37 \times 5}{6 \times 5} = \frac{185}{30}$$

$$\therefore 5\frac{1}{5} + 6\frac{1}{6} = \frac{156}{30} + \frac{185}{30} = \frac{156 + 185}{30} = \frac{341}{30} = 11\frac{11}{30}$$

(d)  $7\frac{1}{3}, 1\frac{1}{2}$

Multiple of 3 = 3, 6, 9, 12,.....

Multiples of 2 = 2, 4, 6, 8,...

LCM = 6

$$7\frac{1}{3} = \frac{22}{3} = \frac{22 \times 2}{3 \times 2} = \frac{44}{6} \text{ and } 1\frac{1}{2} = \frac{3}{2} = \frac{3 \times 3}{2 \times 3} = \frac{9}{6}$$

$$\therefore 7\frac{1}{3} + 1\frac{1}{2} = \frac{44}{6} + \frac{9}{6} = \frac{44 + 9}{6} = \frac{53}{6} = 8\frac{5}{6}$$

(e)  $5\frac{1}{4}, 1\frac{1}{8}$

Multiples of 4 = 4, 8, 12,....

Multiples of 8 = 8, 16,....

LCM = 8

$$\therefore 5\frac{1}{4} = \frac{21}{4} = \frac{21 \times 2}{4 \times 2} = \frac{42}{8} \text{ and } 1\frac{1}{8} = \frac{9}{8}$$

$$\therefore 5\frac{1}{4} + 1\frac{1}{8} = \frac{42}{8} + \frac{9}{8} = \frac{51}{8} = 6\frac{3}{8}$$

(f)  $2\frac{1}{12}, 1\frac{1}{4}$

Multiples of 12 = 12, 24, ..

Multiples of 4 = 4, 8, 12, 16,

LCM = 12

$$2\frac{1}{12} = \frac{25}{12}$$

$$1\frac{1}{4} = \frac{5}{4} = \frac{5 \times 3}{4 \times 3} = \frac{15}{12}$$

$$\therefore 2\frac{1}{12} + 1\frac{1}{4} = \frac{25}{12} + \frac{15}{12} = \frac{25 + 15}{12} = \frac{40}{12} = 3\frac{4}{12}$$

(g)  $2\frac{3}{4}, 1\frac{5}{16}$

Multiple of 4 = 4, 8, 12, 16, .....

Multiple of 16 = 16, 32,...



$$\text{LCM} = 16$$

$$2\frac{3}{4} = \frac{11}{4} = \frac{11 \times 4}{4 \times 4} = \frac{44}{16} \text{ and } 1\frac{5}{16} = \frac{21}{16}$$

$$\therefore 2\frac{3}{4} + 1\frac{5}{16} = \frac{44}{16} + \frac{21}{16} = \frac{44 + 21}{16} = \frac{65}{16} = 4\frac{1}{16}$$

(h)  $2\frac{1}{4}, 1\frac{7}{8}$

Multiple of 4 = 4, 8, 12, ...

Multiple of 8 = 8, 16, ...

$$\text{LCM} = 8$$

$$2\frac{1}{4} = \frac{9}{4} = \frac{9 \times 2}{4 \times 2} = \frac{18}{8}$$

$$1\frac{7}{8} = \frac{15}{8}$$

$$\therefore 2\frac{1}{4} + 1\frac{7}{8} = \frac{18}{8} + \frac{15}{8} = \frac{33}{8} = 4\frac{1}{8}$$

3. (a)  $\frac{4}{9} + \frac{6}{18} + \frac{5}{9}$

Multiple of 9 = 9, 18, 27, ...

Multiple of 18 = 18, 36

$$\text{LCM} = 18$$

$$\frac{4}{9} = \frac{4 \times 2}{9 \times 2} = \frac{8}{18}$$

$$\frac{5}{9} = \frac{5 \times 2}{9 \times 2} = \frac{10}{18}$$

$$\begin{aligned} \therefore \frac{4}{9} + \frac{6}{18} + \frac{5}{9} &= \frac{8}{18} + \frac{6}{18} + \frac{10}{18} \\ &= \frac{8 + 6 + 10}{18} = 1\frac{6}{18} = 1\frac{1}{3} \end{aligned}$$

(b)  $\frac{6}{20} + \frac{6}{10} + \frac{14}{20}$

Multiple of 20 = 20, 40, ...

Multiple of 10 = 10, 20, 30, ...

$$\text{LCM} = 20$$

$$\frac{6}{10} = \frac{6 \times 2}{10 \times 2} = \frac{12}{20}$$

$$\begin{aligned} \therefore \frac{6}{20} + \frac{6}{10} + \frac{14}{20} &= \frac{6}{20} + \frac{12}{20} + \frac{14}{20} \\ &= \frac{6 + 12 + 14}{20} = \frac{32}{20} = 1\frac{12}{20} = 1\frac{3}{5} \end{aligned}$$

$$(c) \frac{1}{12} + \frac{1}{2} + \frac{8}{12}$$

Multiple of 12 = 12, 24, 36, ....

Multiple of 2 = 2, 4, 6, 8, 10, 11, 12, ....

LCM = 12

$$\frac{1}{2} = \frac{1 \times 6}{2 \times 6} = \frac{6}{12}$$

$$\begin{aligned} \therefore \frac{1}{12} + \frac{1}{2} + \frac{8}{12} &= \frac{1}{12} + \frac{6}{12} + \frac{8}{12} \\ &= \frac{1+6+8}{12} = \frac{15}{12} = 1\frac{3}{12} = 1\frac{1}{4} \end{aligned}$$

$$(d) \frac{3}{4} + \frac{3}{8} + \frac{3}{8}$$

Multiples of 4 = 4, 8, 12, ....

Multiple of 8 = 8, 16, ....

$$\frac{3}{4} = \frac{3 \times 2}{4 \times 2} = \frac{6}{8}$$

$$\therefore \frac{3}{4} + \frac{3}{8} + \frac{3}{8} = \frac{6}{8} + \frac{3}{8} + \frac{3}{8} = \frac{6+3+3}{8} = \frac{12}{8} = \frac{3}{2} = 1\frac{1}{2}$$

### Exercise 10.6

$$1. (a) \frac{8}{5} - \frac{6}{5} = \frac{8-6}{5} = \frac{2}{5}$$

$$(b) \frac{7}{6} - \frac{4}{6} = \frac{7-4}{6} = \frac{3}{6} = \frac{1}{2}$$

$$(c) \frac{3}{11} - \frac{1}{11} = \frac{3-1}{11} = \frac{2}{11}$$

$$(d) 5\frac{2}{5} - 2\frac{1}{5} = \frac{27}{5} - \frac{11}{5} = \frac{27-11}{5} = \frac{16}{5} = 3\frac{1}{5}$$

$$(e) 3\frac{26}{27} - 2\frac{1}{27} = \frac{107}{27} - \frac{55}{27} = \frac{107-55}{27} = \frac{52}{27} = 1\frac{25}{27}$$

$$(f) 1\frac{5}{6} - \frac{1}{6} = \frac{11}{6} - \frac{1}{6} = \frac{11-1}{6} = \frac{10}{6} = 1\frac{4}{6} = 1\frac{2}{3}$$

$$(g) 1\frac{2}{3} - \frac{4}{3} = \frac{5}{3} - \frac{4}{3} = \frac{5-4}{3} = \frac{1}{3}$$

$$(h) 7\frac{1}{9} - 2\frac{5}{9} = \frac{64}{9} - \frac{23}{9} = \frac{41}{9} = 4\frac{5}{9}$$

$$2. (a) \frac{2}{5} - \frac{3}{8}$$

Multiple of 5 = 5, 10, 15, 20, 25, 30, 35, 40, ....

Multiple of 8 = 8, 16, 24, 32, 40, ....

LCM = 40

$$\frac{2}{5} = \frac{2 \times 8}{5 \times 8} = \frac{16}{40}$$

$$\frac{3}{8} = \frac{3 \times 5}{8 \times 5} = \frac{15}{40}$$

$$\frac{2}{3} - \frac{3}{8} = \frac{16}{40} - \frac{15}{40} = \frac{16-15}{40} = \frac{1}{40}$$

(b)  $\frac{13}{16} - \frac{11}{20}$

Multiple of 16 = 16, 32, 48, 64, 80, .....

Multiple of 20 = 20, 40, 60, 80, .....

LCM = 80

$$\frac{13}{16} = \frac{13 \times 5}{16 \times 5} = \frac{65}{80}$$

$$\frac{11}{20} = \frac{11 \times 4}{20 \times 4} = \frac{44}{80}$$

$$\therefore \frac{13}{16} - \frac{11}{20} = \frac{65}{80} - \frac{44}{80} = \frac{65-44}{80} = \frac{21}{80}$$

(c)  $\frac{92}{15} - \frac{56}{30}$

Multiple of 15 = 15, 30, 45, .....

Multiple of 30 = 30, 60, 90, ...

$$\frac{92}{15} = \frac{92 \times 2}{15 \times 2} = \frac{184}{30}$$

$$\therefore \frac{92}{15} - \frac{56}{30} = \frac{184}{30} - \frac{56}{30}$$

$$= \frac{184-56}{30} = \frac{128}{30} = \frac{64}{15} = 4\frac{4}{15}$$

(d)  $6\frac{1}{2} - 4\frac{5}{6}$

Multiple of 2 = 2, 4, 6, 8, 10, ...

Multiple of 6 = 6, 12, 18, ...

LCM = 6

$$6\frac{1}{2} = \frac{13}{2} = \frac{13 \times 3}{2 \times 3} = \frac{39}{6}$$

$$4\frac{5}{6} = \frac{29}{6}$$

$$\therefore 6\frac{1}{2} - 4\frac{5}{6} = \frac{39}{6} - \frac{29}{6} = \frac{39-29}{6} = \frac{10}{6} = 1\frac{4}{6} = 1\frac{2}{3}$$

(e)  $9\frac{8}{5} - 7\frac{4}{15}$

Multiple of 5 = 5, 10, 15, 20, ...

Multiple of 15 = 15, 30, ...

LCM = 15

$$9\frac{8}{5} = \frac{53}{5} = \frac{53 \times 3}{5 \times 3} = \frac{159}{15}$$

$$7\frac{4}{15} = \frac{109}{15}$$

$$\therefore 9\frac{8}{5} - 7\frac{4}{15} = \frac{159}{15} - \frac{109}{15} = \frac{50}{15} = 3\frac{5}{15} = 3\frac{1}{3}$$

$$(f) \quad 5\frac{1}{9} - 2\frac{1}{18}$$

Multiple of 9 = 9, 18, 27, .....

Multiple of 18 = 18, 36, .....

LCM = 18

$$5\frac{1}{9} = \frac{46}{9} = \frac{46 \times 2}{9 \times 2} = \frac{92}{18} \text{ and } 2\frac{1}{18} = \frac{37}{18}$$

$$\therefore \quad 5\frac{1}{9} - 2\frac{1}{18} = \frac{92}{18} - \frac{37}{18} = \frac{92-37}{18} = \frac{55}{18} = 3\frac{1}{18}$$

$$(g) \quad 3\frac{1}{3} - 2\frac{1}{4}$$

Multiple of 3 = 3, 6, 9, 12, ....

Multiple of 4 = 4, 8, 12, .....

LCM = 12

$$3\frac{1}{3} = \frac{10}{3} = \frac{10 \times 4}{3 \times 4} = \frac{40}{12}$$

$$2\frac{1}{4} = \frac{9}{4} = \frac{9 \times 3}{4 \times 3} = \frac{27}{12}$$

$$\therefore \quad 3\frac{1}{3} - 2\frac{1}{4} = \frac{40}{12} - \frac{27}{12} = \frac{40-27}{12} = \frac{13}{12} = 1\frac{1}{12}$$

$$(h) \quad 3\frac{1}{6} - 1\frac{2}{3}$$

Multiple of 6 = 6, 12, 18, .....

Multiple of 3 = 3, 6, 9, .....

LCM = 6

$$3\frac{1}{6} = \frac{19}{6} \text{ and } 1\frac{2}{3} = \frac{5}{2} = \frac{5 \times 2}{2 \times 3} = \frac{10}{6}$$

$$\therefore \quad 3\frac{1}{6} - 1\frac{2}{3} = \frac{19}{6} - \frac{10}{6} = \frac{19-10}{6} = \frac{9}{6} = 1\frac{3}{6} = 1\frac{1}{2}$$

### Exercise 10.7

1. Distance travelled on Monday =  $\frac{1}{4}$  km.

Distance travelled on Tuesday =  $\frac{7}{16}$  km.

Distance travelled on Wednesday =  $\frac{5}{4}$  km.

Total distance travelled =  $\frac{1}{4} + \frac{7}{16} + \frac{5}{4}$

Multiple of 4 = 4, 8, 12, 16, ....

Multiple of 16 = 16, 32, ....

$$\text{LCM} = 16$$

$$\begin{aligned} \therefore \frac{1}{4} + \frac{1}{16} + \frac{1}{4} &= \frac{1 \times 4 + 1 + 5 \times 4}{16} \\ &= \frac{4 + 7 + 20}{16} = \frac{31}{16} = 1\frac{15}{16} \text{ km.} \end{aligned}$$

So, the total distance she travelled is  $1\frac{15}{16}$  km.

2. Length of the cloth =  $11\frac{4}{5}$  m. =  $\frac{59}{5}$  m.

The cloth he used =  $3\frac{1}{5}$  m. =  $\frac{16}{5}$  m.

The cloth left =  $\frac{59}{5} - \frac{16}{5} = \frac{59-16}{5} = \frac{43}{5} = 8\frac{3}{5}$  m.

So,  $8\frac{3}{5}$  m. was left with him.

3. Weight of apples =  $3\frac{1}{2}$  kg. =  $\frac{7}{2}$  kg.

Weight of mangoes =  $3\frac{2}{3}$  kg =  $\frac{11}{3}$  kg.

Weight of guavas =  $4\frac{3}{4}$  kg =  $\frac{19}{4}$  kg.

Weight of total fruits =  $\frac{7}{2} + \frac{11}{3} + \frac{19}{4}$

LCM of 2, 3 and 4 = 12

$$\begin{aligned} \therefore \frac{7}{2} + \frac{11}{3} + \frac{19}{4} &= \frac{7 \times 6 + 11 \times 4 + 19 \times 3}{12} \\ &= \frac{42 + 44 + 57}{12} = \frac{143}{12} = 11\frac{11}{12} \text{ kg.} \end{aligned}$$

So, he bought  $11\frac{11}{12}$  kg of fruits in all.

4. Time spent in the morning =  $\frac{3}{5}$  hour

Time spent in the evening =  $\frac{1}{4}$  hour

Total time spent =  $\frac{3}{5} + \frac{1}{4}$

LCM of 5 and 4 = 20

$$\begin{aligned} \therefore \frac{3}{5} + \frac{1}{4} &= \frac{3 \times 4 + 1 \times 5}{20} \\ &= \frac{12 + 5}{20} = \frac{17}{20} \text{ hours.} \end{aligned}$$

So, he spends  $\frac{17}{20}$  hours in playing everyday.

5. Total weight of wheat = 100 kg.

Weight of wheat sold =  $54\frac{3}{4}$  kg.

$$\begin{aligned} \text{Weight of wheat left} &= \frac{100}{1} - \frac{219}{4} \\ &= \frac{100 \times 4 - 219}{4} && (\text{LCM of 1 and 4} = 4) \\ &= \frac{400 - 219}{4} = \frac{181}{4} = 45\frac{1}{4} \text{ kg.} \end{aligned}$$

So, he was left  $45\frac{1}{4}$  kg. of wheat with.

### MCQ's

1. (a) 2. (a) 3. (b) 4. (c)

### Worksheet

1. Do it yourself.

2. 1. 2 2. 2

## 11. Decimals

### Exercise 11.1

1. (b) 0.5 (c)  $\frac{4}{10}$  0.4 (d) 0.7
2. (a)  $1\frac{2}{10}$  (b)  $3\frac{4}{10}$  (c)  $3\frac{5}{10}$
- (d)  $2\frac{6}{10}$  (e)  $2\frac{9}{10}$

### Exercise 11.2

1. (a)  $\frac{3}{10} = 0.3$  (b)  $\frac{52}{100} = 0.52$  (c)  $\frac{123}{1000} = 0.123$
- (d)  $\frac{4371}{1000} = 4.371$  (e)  $\frac{76}{10} = 7.6$  (f)  $\frac{235}{100} = 2.35$
2. (a)  $4\frac{5}{10} = \frac{40+5}{10} = \frac{45}{10} = 4.5$  (b)  $6\frac{11}{100} = \frac{600+11}{100} = \frac{611}{100} = 6.11$
- (c)  $76\frac{150}{1000} = \frac{76000+150}{1000} = \frac{76150}{1000} = 76.150$  (d)  $51\frac{4}{10} = \frac{510+4}{10} = \frac{514}{10} = 51.4$
- (e)  $25\frac{1}{100} = \frac{2500+1}{100} = \frac{2501}{100} = 25.01$  (f)  $423\frac{23}{1000} = \frac{423000+23}{1000} = \frac{423023}{1000} = 423.023$
3. (a) Zero point seven six.  
 (b) Two point zero nine.  
 (c) Eight point seven three one.

- (d) Nine point five.  
 (e) One hundred twenty five point zero five.  
 (f) Four hundred eleven point one two zero.

### Exercise 11.3

1. (a)  $0.96 = \frac{9}{10} + \frac{6}{100} = 0.9 + 0.06$   
 (b)  $0.135 = \frac{1}{10} + \frac{3}{100} + \frac{5}{1000} = 0.1 + 0.03 + 0.005$   
 (c)  $0.507 = \frac{5}{10} + 0 + \frac{7}{100} = 0.5 + 0 + 0.007$   
 (d)  $0.986 = \frac{9}{10} + \frac{8}{100} + \frac{6}{1000} = 0.9 + 0.08 + 0.006$   
 (e)  $1.208 = 1 + \frac{2}{10} + \frac{8}{1000} = 1 + 0.2 + 0.008$   
 (f)  $427.003 = 400 + 20 + 7 + \frac{3}{1000} = 400 + 20 + 7 + 0.003$
2. (a) Place value of 7 in 6.07 =  $\frac{7}{100} = 0.07$   
 (b) Place value of 2 in 18.24 =  $\frac{2}{10} = 0.2$   
 (c) Place value of 5 in 436.005 =  $\frac{5}{1000} = 0.005$   
 (d) Place value of 9 in 3469.18 = 9  
 (e) Place value of 1 in 72.015 =  $\frac{1}{100} = 0.01$   
 (f) Place value of 6 in 11.126 =  $\frac{6}{1000} = 0.006$
3. (a)  $90 + 6 + \frac{3}{10} + \frac{9}{100} = 90 + 6 + 0.3 + 0.09 = 96.39$   
 (b)  $900 + 20 + 9 + \frac{8}{1000} = 900 + 20 + 9 + 0.008 = 929.008$   
 (c)  $100 + 70 + 6 + \frac{8}{10} + \frac{9}{1000} = 100 + 70 + 6 + 0.8 + 0.009 = 176.809$   
 (d)  $1000 + 500 + 9 + \frac{1}{10} + \frac{1}{1000} = 1000 + 500 + 9 + 0.1 + 0.001 = 1509.101$

### Exercise 11.4

1. (a)  $2.96 > 0.91$  (b)  $44.287 < 44.398$   
 (c)  $500.5 = 500.500$  (d)  $6.0 = 6.000$   
 (e)  $86.90 > 86.09$  (f)  $3.93 > 3.900$
2. (a)  $2.5 < 5.1 < 6.1 < 8.7$  (b)  $4.44 < 5.55 < 6.66 < 11.11$   
 (c)  $12.12 < 14.60 < 16.11 < 29.23$  (d)  $2.01 < 2.10 < 2.11 < 16.5$
3. (a)  $181.5 > 127.7 > 116.8 > 22.7$  (b)  $72.5 > 27.7 > 8.11 > 8.1$   
 (c)  $29.8 > 17.7 > 6.7 > 1.1$  (d)  $66.6 > 51.5 > 29.8 > 12.1$

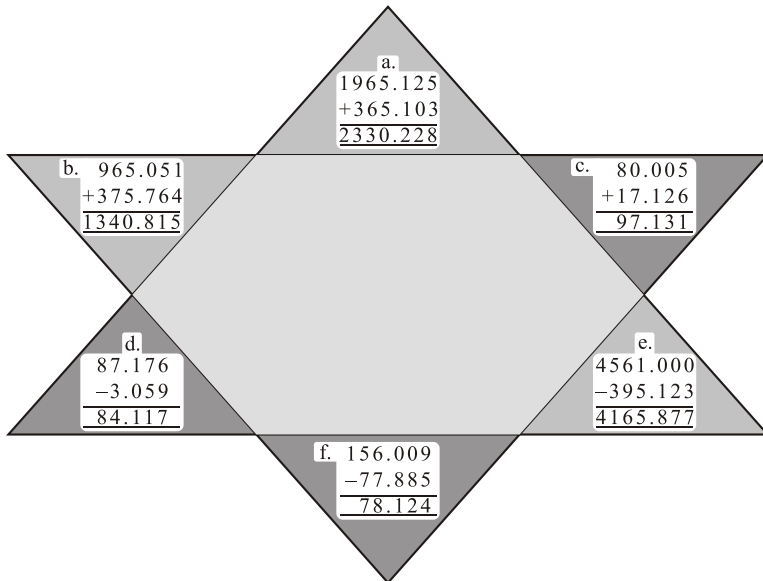
### Exercise 11.5

1. (a) 
$$\begin{array}{r} 219.32 \\ + \quad 8.412 \\ +137.8 \\ \hline 365.532 \end{array}$$
 (b) 
$$\begin{array}{r} 75.318 \\ + 51.296 \\ +120.511 \\ \hline 247.125 \end{array}$$
 (c) 
$$\begin{array}{r} 4.008 \\ + 52.800 \\ +174.080 \\ \hline 230.888 \end{array}$$
2. (a) 
$$\begin{array}{r} 316.85 \\ - 76.14 \\ \hline 240.71 \end{array}$$
 (b) 
$$\begin{array}{r} 414.76 \\ -319.97 \\ \hline 94.79 \end{array}$$
 (c) 
$$\begin{array}{r} 869.007 \\ -295.690 \\ \hline 573.317 \end{array}$$
3. (a) 
$$\begin{array}{r} 5.5 \\ + 7.7 \\ +13.3 \\ \hline 26.5 \end{array}$$
 (b) 
$$\begin{array}{r} 18.34 \\ +24.27 \\ +13.56 \\ \hline 56.17 \end{array}$$
 (c) 
$$\begin{array}{r} 3.801 \\ +3.081 \\ +3.018 \\ \hline 9.900 \end{array}$$
4. (a) 
$$\begin{array}{r} 28.51 \\ -17.32 \\ \hline 11.19 \end{array}$$
 (b) 
$$\begin{array}{r} 48.410 \\ -16.323 \\ \hline 31.087 \end{array}$$
 (c) 
$$\begin{array}{r} 92.500 \\ -26.555 \\ \hline 65.945 \end{array}$$

### MCQ's

1. (b) 2. (a) 3. (a) 4. (b)

### Worksheet



1. Ascending order :  $78.124 < 84.117 < 97.131 < 1340.815 < 2330.228 < 4165.877$
2. (a) 
$$78.124 = 70 + 8 + \frac{1}{10} + \frac{2}{100} + \frac{4}{1000}$$
  

$$= 70 + 8 + 0.1 + 0.02 + 0.004$$