

**1 Review**

1. Write the consecutive numbers that come after :

- a. 997    **998**    **999**    **1000**    **1001**    **1002**    **1003**    **1004**  
 b. 2606    **2607**    **2608**    **2609**    **2610**    **2611**    **2612**    **2613**  
 c. 7894    **7895**    **7996**    **7837**    **7838**    **7899**    **7900**    **7901**

2. Write in the expanded form :

- Ans. a.  $3428 = 3000 + 400 + 20 + 8$       b.  $595 = 4000 + 100 + 30 + 8$   
 c.  $6109 = 6000 + 100 + 0 + 9$       d.  $5060 = 5000 + 0460 + 0$

3. Write  $>$ ,  $<$  or  $=$  :

- Ans. a.  $3470 > 1256$       b.  $2893 > 2839$   
 c.  $4376 < 5731$       d.  $8477 < 8747$

4. Write in ascending order :

- Ans. a. 3268, 4567, 5674, 7040, 8147      b. 7643, 8530, 8759, 8975, 9321  
 c. 1002, 1020, 1200, 2001, 2010

5. Fill in :

- Ans. a. In 452, the place value of 4 is **400** that of 2 is **2** and that of 5 is **50** .  
 b. In 6093, the place value of 9 is **90** that of 3 is **3** and that of 6 is **6000** .  
 c. In 7654, the place value of 7 is **7000** that of 5 is **50** and that of 6 is **600** .  
 d. Write the numbers shown by the numerals : VI = **6** IV = **4** XII = **12**  
 e. Write in Roman numerals : 10 = **X** 9 = **IX** 8 = **VIII**  
 f. The number name of 5204 is **Five thousand two hundred four**.  
 g. The number name of 9439 is **Nine thousand four hundred thirty Nine**.  
 h. Six thousand eight hundred and twenty-three in figures is **6823**.  
 i. Eight thousand fifty in figures is **8050**.

6. Make the greatest and smallest numbers using all the digits :

Ans.	Digits	2,7,9	3,0,8	4,5,3,6	9,0,2,1
	Smallest number	a. 279	b. 388	c. 3456	d. 1029
	Greatest number	b. 972	f. 830	g. 6453	h. 9210

Do these sums :

7. a. 
$$\begin{array}{r} \textcircled{1} \textcircled{1} \textcircled{1} \\ 2 \ 7 \ 8 \ 3 \\ + 4 \ 6 \ 4 \ 9 \\ \hline 4 \ 7 \ 3 \ 2 \end{array}$$
      b. 
$$\begin{array}{r} \textcircled{1} \textcircled{1} \\ 3 \ 5 \ 7 \ 2 \\ + 2 \ 9 \ 8 \ 1 \\ \hline 6 \ 5 \ 5 \ 3 \end{array}$$
      c. 
$$\begin{array}{r} \textcircled{1} \\ 6 \ 8 \ 9 \ 3 \\ - 3 \ 2 \ 5 \ 4 \\ \hline 3 \ 6 \ 3 \ 9 \end{array}$$
      d. 
$$\begin{array}{r} 9 \ 8 \ 0 \ 1 \\ - 8 \ 7 \ 6 \ 5 \\ \hline 1 \ 0 \ 3 \ 6 \end{array}$$

8. a.  $482 + 351 + 68 = \mathbf{901}$       b.  $342 + 453 + 28 + 35 = \mathbf{858}$   
 c.  $1234 + 369 + 107 = \mathbf{1710}$       d.  $3050 + 2641 + 365 = \mathbf{6056}$

9. a.  $583 + 602 - 315 = \mathbf{901}$       b.  $943 - 268 - 517 = \mathbf{158}$   
 c.  $592 - 681 + 89 = \mathbf{1710}$       d.  $4786 - 5723 + 2324 = \mathbf{1387}$

10. a. 
$$\begin{array}{r} 6 \\ \times 3 \\ \hline 18 \end{array}$$
    b. 
$$\begin{array}{r} 6 \\ \times 3 \\ \hline 18 \end{array}$$
    c. 
$$\begin{array}{r} 286 \\ \times 40 \\ \hline 11440 \end{array}$$
    d. 
$$\begin{array}{r} 409 \\ \times 70 \\ \hline 28630 \end{array}$$
    e. 
$$\begin{array}{r} 32 \\ \times 200 \\ \hline 6400 \end{array}$$


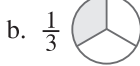
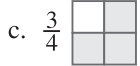
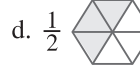
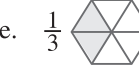
11. a. 
$$\begin{array}{r} 43 \\ \times 24 \\ \hline 172 \\ 86 \times \\ \hline 1032 \end{array}$$
    b. 
$$\begin{array}{r} 75 \\ \times 63 \\ \hline 225 \\ 450 \times \\ \hline 4725 \end{array}$$
    c. 
$$\begin{array}{r} 359 \\ \times 37 \\ \hline 2513 \\ 1077 \times \\ \hline 13283 \end{array}$$
    d. 
$$\begin{array}{r} 109 \\ \times 48 \\ \hline 872 \\ 436 \times \\ \hline 5232 \end{array}$$

12. Divide and check the answer :

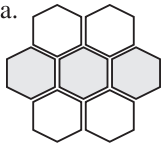
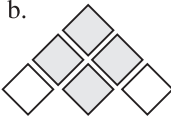
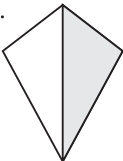
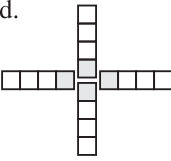
- Ans. a. 
$$\begin{array}{r} 19 \\ 2 \overline{)38} \\ \underline{-2} \\ 18 \\ \underline{-18} \\ 0 \\ \times \end{array}$$
    b. 
$$\begin{array}{r} 18 \\ 3 \overline{)56} \\ \underline{-3} \\ 26 \\ \underline{-24} \\ 02 \\ \times \end{array}$$
    c. 
$$\begin{array}{r} 8 \\ 8 \overline{)67} \\ \underline{-64} \\ 03 \\ \times \end{array}$$
    d. 
$$\begin{array}{r} 6 \\ 12 \overline{)75} \\ \underline{-72} \\ 03 \\ \times \end{array}$$
- Dividend =  $2 \times 19 + 0 = 38$     Dividend =  $3 \times 18 + 2 = 56$   
 Dividend =  $8 \times 8 + 3 = 67$     Dividend =  $12 \times 6 + 3 = 75$

13. a. 
$$\begin{array}{r} 19 \\ 4 \overline{)168} \\ \underline{-16} \\ 08 \\ \underline{-8} \\ 0 \\ \times \end{array}$$
    b. 
$$\begin{array}{r} 615 \\ 8 \overline{)2463} \\ \underline{-24} \\ 06 \\ \underline{-4} \\ 23 \\ \underline{-20} \\ 3 \\ \times \end{array}$$
    c. 
$$\begin{array}{r} 709 \\ 8 \overline{)3545} \\ \underline{-34} \\ 004 \\ \underline{-45} \\ 45 \\ \underline{-45} \\ 0 \\ \times \end{array}$$
    d. 
$$\begin{array}{r} 805 \\ 8 \overline{)6442} \\ \underline{-64} \\ 004 \\ \underline{-0} \\ 42 \\ \underline{-40} \\ 2 \\ \times \end{array}$$

14. Colour to show the fractions :

- Ans. a.  $\frac{1}{2}$      b.  $\frac{1}{3}$      c.  $\frac{3}{4}$      d.  $\frac{1}{2}$      e.  $\frac{1}{3}$  






15. Write 'T' if the fraction is shaded correctly. If not, write 'F' :

- a.     b.     c.     d. 
- $\frac{3}{7}$  — **T**       $\frac{2}{3}$  — **T**       $\frac{1}{4}$  — **F**       $\frac{1}{4}$  — **T**

16. Write 'T' for true and 'F' for false :

- a. T      b. T      c. F      d. T      e. T  
 f. F      g. T      h. F

17. Write the time :

Ans. a.  9 : 10      b.  3 : 45      c.  2 : 15      d.  2 : 25      e.  10 : 50

18. Fill in :

- a. 50 p = ₹ **0.50**      b. ₹ 25.50 = **2550** p  
 c. 4200 p = ₹ **42.00**      d. 9875 p = ₹ **98.75**  
 e. 2 hours = **120** minutes      f. 3 days = **72** hours  
 g. weeks = **21** days      h. 4 months = **120** days  
 i. 10 minutes = **600** seconds      j. 1 week = **168** hours  
 k. 6 metres = **600** cm      l. 700 cm = **7.00** m  
 m. 5000 m = **5** km      n. 9 km = **9000** m  
 o. 7 kg = **7000** grams      p. 2000 grams = **2** kg  
 q. 3000 ml = **3** l      r. 5 l = **5000** ml

19. Change :

- a.  $60 \times 2 + 4 = 12$  minutes      b.  $24 \times 5 + 15 = 135$   
 c.  $6 \times 30 + 10 = 190$  days      d.  $2 \times 7 + 3 = 17$  days  
 e.  $4 \times 1000 + 40 = 4040$  ml      f.  $\frac{2643}{1000} = 2l$   
 g.  $2 \times 1000 + 500 = 2500$  gm      h.  $\frac{6255}{1000} =$   
 i.  $8 \times 100 + 70 = 870$  cm      j.  $\frac{429}{100} =$

20. Find :

- a. ₹243.50      b. 1649.58      c. ₹52.25  
 d. ₹8160.50      e. ₹362.80  
 f.  $\left( ₹792 + \frac{285}{100} \right) \times 7 = ₹792 + 0.85 \times 7$   
 $= ₹792 + 0.85 \times 7 = ₹5449.95$   
 g. ₹8.05      h.  $\left( ₹693 + \frac{₹30}{100} \right) \times 3 = ₹693 + 20.30 \div 3$   
 $= ₹693 + 30 \div 3$   
 $= ₹231.10$

21. Potatoes in his bag = 2 kg  
 Onions in his bag = 1 kg 500 g  
 Spinach in his bag = 250 g  
 Total weight in his bag = 3 kg 750 g.  
 So, Total weight in Anil's bag was 3 kg 750 g.

kg	g
2	000
1	500
0	250
3	750

22. Total distance = 45 km 500 m  
 Distance travelled by bus = 43 km 500 m  
 Distance travelled by ricksaw = 45 km 600 m  
 = 45 km 500 m  
 = 2 km 100 m

km	m
43	600
- 43	500
2	100

So, Rajeev travelled 2 km 100 m by ricksaw.

23. A shopkeeper sells oil in 1 day = 28 l 150 ml  
 A shopkeeper sells oil in 6 days = 28 l 150 ml  $\times$  6  
 A shopkeeper sells 168 l 900 ml oil in 65 days.

l	ml
28	150
	$\times$ 6
168	900

24. For 8 trousers tailor used cloth = 16 m 80 cm  
 = 16.80 m  
 = 2.10 m  
 = 2 m 10 cm

2.10
8 $\overline{)16.80}$
- 16
08
- 8
00
0
0

So, the tailor use 2 m 10 cm cloth to make each trouser.

25. a. The number of children who come by rickshaw = **16** and by car = **6**  
 b. The number of children who come by bus = **18** and by scooter = **14**  
 c. The total number of children in the class = **54**



## 2 Roman Numerals

### 1. Write using Hindi-Arabic numerals :

a.	V	VI	IV	IX	X	XI	VII	XII	XIII	XX
	5	6	4	9	10	11	7	12	13	20
b.	XVI	XVII	XIV	XIX	XXI	XXIII	XXVI	XXVIII	XXIX	XXX
	16	17	14	19	21	23	26	28	29	30
c.	XXXI	XXXIII	XXXV	XXXVII	XXXIV	XL	XLIII	XLIV	XLIX	L
	31	33	35	37	34	40	43	44	49	50

### 2. Fill in > or < :

- Ans. a. VIII > VII      b. XI > IX      c. XVI > XIV  
 d. XXX < CC      e. XXX < XL      f. XXVIII < XLVI  
 g. X < L      h. L < C      i. XLV > XXV

3. Fill in  $>$ ,  $<$  or  $=$  :
- a. XXII  $=$  12      b.  $4 + 2 <$  XLII      c.  $30 - 20 =$  X  
d. XIII  $<$  32      e. XL  $<$   $50 + 10$       f.  $3 \times 8 <$  XLII  
g. XXXVII  $<$  38      h. C  $>$  50      i.  $20 + 6 >$  XXIV
4. Write in ascending order :
- a. X XX XXX XL L C  
b. XXII XIX XXI XI XXX XXVII  
c. IX XIV XV XXIV XXVI XLI
5. Write in descending order :
- a. XXII XIX XXI XI XXX XXVII  
b. XLVI XLI XXXIX XXVIII XIX XVI  
c. XLVI XLI XXIX XXVIII XIX XVI
6. Write the answers in Roman numerals :
- a.  $8 \times 4 =$  XXXII      b.  $81 \div 9 =$  IX  
c.  $12 + 12 =$  XXIV      d.  $2 \times 9 =$  XVIII  
e.  $59 - 19 =$  XL      f.  $16 + 9 =$  XXV  
g.  $6 \times 6 =$  XXXVI      h.  $370 \div 10 =$  XXXVII  
i.  $7 \times 7 =$  XLIX



### 3 Large Numbers

#### Exercise 3.1

1. Write the short form :
- a. 42,692      b. 7,53,175      c. 36,28,421      d. 2,48,73,456  
e. 4,57,30,968      f. 90,54,040      g. 64,028
2. Write in the expanded form :
- Ans. a.  $60000 + 7000 + 400 + 50 + 2$   
b.  $700000 + 80000 + 4000 + 200 + 90 + 5$   
c.  $2000000 + 500000 + 70000 + 9000 + 800 + 70 + 2$   
d.  $3000000 + 200000 + 0 + 0 + 0 + 0$   
e.  $9000000 + 900000 + 0 + 0 + 900 + 90 + 9$   
f.  $700000 + 0 + 4000 + 200 + 90 + 6$
3. Write in figures :
- Ans. a. TC C TL L TTh Th H T O      b. TC C TL L TTh Th H T O  

			5	0	6	2	7		

			2		3	6	2	9	4

  
c. TC C TL L TTh Th H T O      d. TC C TL L TTh Th H T O  

		3	4	1	9	5	4	5	

		7	0	0	0	0	0	0	0

  
e. TC C TL L TTh Th H T O      f. TC C TL L TTh Th H T O  

	3	9	1	5	2	1	1	8	

		1	1	1	3	0	1	4	

- g. 

TC	C	TL	L	TTh	Th	H	T	O
		7	9	0	8	3	0	1

 h. 

TC	C	TL	L	TTh	Th	H	T	O
		5		9	9	1	8	9
- i. 

TC	C	TL	L	TTh	Th	H	T	O
		3	4	1	9	5	4	5

 j. 

TC	C	TL	L	TTh	Th	H	T	O
		3	8	0	0	7	5	4
- k. 

TC	C	TL	L	TTh	Th	H	T	O
				1	5	9	7	4

**4. Write in figures :**

- Ans.** a. 37,458                      b. 93,200                      c. 52,035  
d. 2,41,809                      e. 74,53,521                      f. 1,23,45,678

**5. Write in words :**

- Ans.** a. Twelve thousand  
b. Thirty-seven thousand eighthundred and sixty-nine  
c. Ninety-eight thousand seven hundred and four  
d. Sixty-four thousand and five  
e. Seventy thousand one hundred and one  
f. Five lakh  
g. Five lakh forty-three thousand two hundred and ten  
h. Twenty-six lakh eight thousand  
(i) Eighty-five lakh forty-seven thousand nine hundred and twenty-seven  
(j) Ninety-four lakh five hundred  
(k) Fifty-five lakh thirty-three thousand six hundred and ninety-nine  
(l) Seven lakh ninety-four thousand six hundred and eighty-three  
(m) Nine crore  
(n) Eight crore fifty-four lakh seventy-nine thousand two hundred and seventy  
(o) Five crore thirty-two lakh sixteen thousand eight hundred and forty-two

**6. Rewrite the numbers with commas separating the periods :**

- a. 4,32,157                      b. 75,25,125                      c. 29,843                      d. 8,92000  
e. 1,11,111                      f. 2,37,50,496                      g. 98,76,543                      h. 5,70,20,931  
i. 35,69,451                      j. 40,00,358

**7. Write the consecutive numbers than come after :**

- a. 63,256    63,257    63,258    63,259    63,260    63,261  
b. 51,997    51,998    51,999    52000    52001    52002  
c. 1, 12,733    1,12,734    1,12,735    1,12,736    1,12,737    1,12,738  
d. 19,20,898    19,20,899    19,20,900    19,20,901    19,20,902    19,20,903  
e. 64,32,170    64,32,171    64,32,172    64,32,173    64,32,174    64,32,175

**8. Write the predecessor (the number just before) :**

- Ans.** (b) 72,685    (c) 64,299    (d) 1,87,529    (e) 5,93,003  
(f) 16,27,831    (g) 37,08,999    (h) 46,99,999    (i) 1,48,32,168

**9. Write the successor (the number just after) :**

- Ans.** (b) 15,100    (c) 55,548    (d) 32,783    (e) 81,000  
(f) 1,71,634    (g) 4,56,876    (h) 7,00,000    (i) 3,40,708

**10. Write the numbers just before and after :**

- Ans.** (a) 22199, 22201 (b) 35485, 35487 (c) 63728, 63730  
(d) 92999, 93001 (e) 59280, 59282 (f) 84898, 84900  
(g) 74999, 75001 (h) 437852, 437854 (i) 340998, 341000  
(j) 799999, 800001 (k) 1121314, 1121316  
(l) 2399998, 2400000

**11. Write the number between :**

- (a) 10000 (b) 12566 (c) 35801  
(d) 58000 (e) 48635 (f) 99999  
(g) 232401 (h) 637454 (i) 1234122  
(j) 718600

**12. Continue the pattern :**

- (a) 31,802 31,902 32,002 (b) 63,380 63,420 63,460  
(c) 85,900 85,875 85,850 (d) 3,45,423 3,46,523 3,47,623  
(e) 22,87,357 22,86,357 22,85,357

**Exercise 3.2**

**1. Write the place value of the digits.**

- (a) 5, 30, 800, 7000, 20000 respectively  
(b) 50000, 3000, 800, 70, 2 respectively  
(c) 1, 50, 0, 8000, 600000 respectively  
(d) 100000, 50, 4000, 800, 6000 respectively  
(e) 3000000, 700000, 20000, 8000, 50 respectively  
(f) 1, 30, 800, 7000, 9000000 respectively  
(g) 2000000, 100000, 30000, 5000, 600 respectively  
(h) 5000000, 6000, 900, 30, 4 respectively  
(i) 50000000, 60000, 9000, 300, 40 respectively

**2. Fill in .**

- a. In 13572, 3 is in the **thousands** place, and 1 is in the **ten thousands** place.  
b. In 247901, 2 is in the **lakhs** place, and 4 is in the **ten thousands** place.  
c. In 1539864, 5 is in the **lakhs** place, and 1 is in the **ten lakhs** place.  
d. In 36581, the digit in the ten thousands place is **3** and its place value is **30000**.  
e. In 598300, the digit in the lakhs place is **5** and its place value is **2**.  
f. In 2749150, the digit in the lakhs place is **7** and that in the ten lakhs place is **2** .  
g. In 2749150, the place value of 2 is **20,00,000** and that of 7 is **7,00,000**.  
h. In 568392, the place value of 5 is **5,00,000** and that of 6 is **60000**.  
i. In 62107, the place value of 6 is **65000**. that of 2 is **2,000** and that of 1 is **100**.

3. Write  $>$ ,  $<$  or  $=$  :
- |             |     |          |             |     |         |
|-------------|-----|----------|-------------|-----|---------|
| a. 45888    | $<$ | 88588    | b. 127632   | $<$ | 299999  |
| c. 50734    | $>$ | 47532    | d. 12345590 | $>$ | 9879632 |
| e. 7360004  | $=$ | 7360004  | f. 8793600  | $>$ | 90000   |
| g. 58000373 | $<$ | 58010373 | h. 634560   | $>$ | 66700   |
| i. 50000    | $<$ | 55555    | j. 639353   | $>$ | 69353   |
| k. 4040400  |     | 89898    | l. 27010    | $>$ | 2710    |
4. Write the smallest number first and then write the largest number :
- |                        |                      |
|------------------------|----------------------|
| (a) 64792, 6768699     | (b) 11500, 1123500   |
| (c) 74060501, 76060601 | (d) 4526, 11213115   |
| (e) 63842, 6432163     | (f) 907050, 30607090 |
5. Write in ascending order :
- (a)  $33795 < 45678 < 52572 < 237691 < 334571$   
 (b)  $580900 < 590800 < 6353412 < 6448160 < 7249147$   
 (c)  $39360 < 2172603 < 2752918 < 12336408 < 15045369$   
 (d)  $9999 < 79000 < 500900 < 7800000 < 9000500$   
 (e)  $25,30,355 < 48,56,640 < 60,55,426 < 112,24,480 < 7,14,21,283$
6. Write in descending order :
- (a)  $6372810 > 3645549 > 1827930 > 1827 > 9180$   
 (b)  $8100000 > 26000 > 17000 > 15000 > 9000$   
 (c)  $3236400 > 2024284 > 1620240 > 812160 > 40400$   
 (d)  $54045505 > 2530350 > 15205 > 5100 > 555$   
 (e)  $6644951 > 3417592 > 738562 > 42941 > 697$
7. Make the greatest and the smallest numbers using all the given digits :
- | Greatest number | Smallest number |
|-----------------|-----------------|
| (a) 97531       | 13579           |
| (b) 86420       | 20468           |
| (c) 987532      | 235789          |
| (d) 9776520     | 2056779         |
| (e) 8543100     | 10023458        |



## 4 Addition

1. Add the following :

Ans. a. 
$$\begin{array}{r} 28636 \\ +41132 \\ \hline 69768 \end{array}$$
 b. 
$$\begin{array}{r} 43245 \\ +95432 \\ \hline 138677 \end{array}$$
 c. 
$$\begin{array}{r} 34875 \\ +72112 \\ \hline 106987 \end{array}$$
 d. 
$$\begin{array}{r} 72145 \\ +32453 \\ \hline 104598 \end{array}$$

2. Add :

Ans. a. 
$$\begin{array}{r} 20025 + 12314 + 100 + 2000 \\ 20025 \\ 12314 \\ 100 \\ +2000 \\ \hline 34439 \end{array}$$
 b. 
$$\begin{array}{r} 31111 + 32425 + 42031 \\ 31111 \\ 32425 \\ +42031 \\ \hline 105567 \end{array}$$

c. 
$$\begin{array}{r} 12436 + 24320 + 101423 \\ 12436 \\ 24320 \\ +101423 \\ \hline 138179 \end{array}$$
 d. 
$$\begin{array}{r} 640323 + 21431 + 210003 + 10020 \\ 640323 \\ 21431 \\ 210003 \\ +10020 \\ \hline 881777 \end{array}$$

### Exercise 4.2

1. Add the following :

Ans. a. 
$$\begin{array}{r} 82723 \\ +45894 \\ \hline 128617 \end{array}$$
 b. 
$$\begin{array}{r} 94235 \\ +48789 \\ \hline 143024 \end{array}$$
 c. 
$$\begin{array}{r} 20463 \\ +28886 \\ \hline 49349 \end{array}$$
 d. 
$$\begin{array}{r} 87953 \\ +88457 \\ \hline 176410 \end{array}$$

2. Add :

Ans. a. 
$$\begin{array}{r} 84654 + 78463 + 2844 + 129 \\ 84654 \\ 78463 \\ 2844 \\ +129 \\ \hline 166090 \end{array}$$
 b. 
$$\begin{array}{r} 505048 + 6432 + 28455 + 374 \\ 505048 \\ 6432 \\ 28455 \\ +374 \\ \hline 540309 \end{array}$$

c. 
$$\begin{array}{r} 64329 + 42847 + 389248 + 4264 \\ 64329 \\ 42847 \\ 388248 \\ +4264 \\ \hline 500888 \end{array}$$

**3. Find the sum of the following :**

**Ans.** a. The greatest 4-digit number = 9999  
 The smallest 5-digit number = + 10000  
 Sum of both numbers =  $\boxed{19,999}$   
**19,999**

b. The greatest 5 digit number = 99999  
 The smallest 4-digit number = + 1000  
 Sum of both numbers =  $\boxed{100999}$   
**1,00,999**

c. Given digits 4,2, 3, 9, 8  
 The largest number = 98432  
 The smallest number = + 23489  
 Sum of both numbers =  $\boxed{121921}$   
**1,21,921**

**4. Which number is :**

**Ans.** a. 649 more than 48625?

$$\begin{array}{r} \textcircled{1} \textcircled{1} \\ 78625 \\ + 649 \\ \hline \boxed{49274} \end{array}$$

b. 25000 more than 55226?

$$\begin{array}{r} \textcircled{1} \\ 55226 \\ + 25000 \\ \hline \boxed{80226} \end{array}$$

c. 63845 more than 32663?

$$\begin{array}{r} \textcircled{1} \textcircled{1} \\ 32663 \\ + 63845 \\ \hline \boxed{96508} \end{array}$$

**Exercose 4.3**

**1. Fill in the blanks using the properties of addition :**

- Ans.** a.  $32,387 + 22,485 = 22,485 + \mathbf{32,387}$   
 b.  $46,474 + 72,985 + 32 = \mathbf{32} + 72,985 + 46,474$   
 c.  $78,726 + 0 = \mathbf{78,726}$   
 d.  $89,324 + \mathbf{92,087} = 92,087 + 89,324$   
 e.  $39,887 + 92,426 = \mathbf{92,426} + 39,887$   
 f.  $0 + 94,679 = \mathbf{94,679}$       g.  $78,729 + \mathbf{0} = 78,729$   
 h.  $42,569 + 23,485 + 92,648 = \mathbf{92,648} + 42,569 + 23,485$   
 i.  $94,007 + \mathbf{24873} + 11,467 = 24,873 + 94,007 + 11,467$   
 j.  $\mathbf{30,005} + 46,456 = 46,456 + 30,005$

**2. Word Problems :**

**Ans.** a. Ist candidate see cured = 56,248 votes  
 IInd candidate secured = 99,268 votes  
 IIIrd candidate secured = + 44,229 votes  
 $\therefore$  Total number of votes polled =  $\boxed{1,99,745 \text{ votes}}$   
 So, 1,99,745 total votges polled.

- b. There are in the city  
 men = 1,07,648  
 women = 1,00,002  
 Childred = + 88,004  
 $\therefore$  Total population of city =  $\boxed{2,95,654}$   
 So, there is total population of the city is 2,95,654.
- c. There are infirestm  
 deer = 48,281  
 rabbits = 32,642  
 other animals = + 38,242  
 $\therefore$  Total animals =  $\boxed{1,19,165}$   
 So, there are, 1,19,165 animals in the forest.
- d. The greater number = 62,842  
 The difference of two numbers = 24896  
 $\therefore$  The smaller number =  $\boxed{37,946}$   
 So, the smaller number is 37,946
- e. The cost of television = ₹ 15,050  
 The cost of scooter = ₹ 22,140  
 The cost of CD player = + ₹ 4,990  
 Total cost of all them =  $\boxed{\text{₹ } 42,180}$   
 So, 42,180 are required to purchase all them.
- f. for the faamine and epidemic relief fund,  
 Ist school committee collected = ₹ 46,299  
 IInd school committee collected = ₹ 6,96,400  
 IIIrd school committee collected = + ₹ 85,555  
 Total they collected =  $\boxed{\text{₹ } 2,28,254}$   
 So, they collected ₹ 2,28,254 altogether.
- g. Cost price of a house = ₹ 6,85,800  
 Money spent on repair = ₹ 17,450  
 Money spent on wooden warp = + ₹ 99,640  
 Total expenditure =  $\boxed{\text{₹ } 8,01,890}$   
 So, Mr. Verma spent ₹ 8,01,890 altogether.
- h. Car = 9,284  
 Motor cycles = 58,962  
 Scooters = 25,648  
 Other vehicles = + 50,648  
 Total vehicles =  $\boxed{1,44,542}$   
 So, there are 1,44,542 vehicles in the city.
- i. Students, who got Ist division = 84,896  
 Students, who got IInd divison = 65,628  
 Students, who got IIRD division = 45,046  
 Students, who failed = + 4,625  
 Total students who appeared =  $\boxed{2,00,195}$

- So, 2,00,195 students appeared in the examination.
- f. Number of soldiers in the XV corps = 3,96,408
  - Number of soldiers more than XV corps = 85,642
  - ∴ Number of soldiers in the XVII corps = 4,82,050
  - Total number of soldiers in the two corps = 3,96,408
  - = + 4,82,058
  - 8,78,466

So, there are 8,78,466 soldiers are in the two corps.

#### Exercise 4.4

**Make an estimate of each of the following sums and compare your estimated answer with the actual sum :**

a.  $6927 + 613 + 9126 + 103 + 68$

Actual Values	Estimated Values nearest tenis
6 9 2 7	6 9 3 0
6 1 3	6 1 0
9 1 2 6	9 1 3 0
1 0 3	1 0 0
+ 6 8	7 0
Sum <span style="border: 1px solid black; padding: 2px;">1 6 8 3 7</span>	<span style="border: 1px solid black; padding: 2px;">1 6 8 4 0</span>

b.  $1762 + 34211 + 5824 + 23902$

Actual Values	Estimated Values nearest tenis
1 7 6 2	1 7 6 0
3 4 2 1 1	3 4 2 1 0
5 8 2 4	5 8 2 0
+ 2 3 9 0 2	+ 2 3 9 0 0
Sum <span style="border: 1px solid black; padding: 2px;">6 5 6 9 9</span>	<span style="border: 1px solid black; padding: 2px;">6 5 6 9 0</span>

c.  $9187 + 618 + 6138 + 983 + 67$

Actual Values	Estimated Values nearest tenis
9 1 8 7	9 1 8 0
6 1 8	6 2 0
6 1 3 8	6 1 4 0
9 8 3	9 8 0
+ 6 7	7 0
Sum <span style="border: 1px solid black; padding: 2px;">1 6 9 9 3</span>	<span style="border: 1px solid black; padding: 2px;">1 7 0 0 0</span>

d.  $9298 + 90150$

Actual Values	Estimated Values nearest tenis
9 2 9 8	9 3 0 0
+ 9 0 1 5 0	+ 9 0 1 5 0
Sum <span style="border: 1px solid black; padding: 2px;">9 9 4 4 8</span>	<span style="border: 1px solid black; padding: 2px;">9 9 4 5 0</span>

e.  $3252 + 6135 + 309$

Actual Values	
	3 2 5 2
	6 1 3 5
	+ 3 0 9
Sum	9 6 9 6

Estimated Values nearest ten	
	3 2 5 0
	6 1 4 0
	3 1 0
	9 7 0 0

f.  $87 + 528 + 416 + 9475$

Actual Values	
	8 7
	5 2 8
	4 1 6
	9 4 7 5
Sum	1 0 5 0 6

Estimated Values nearest ten	
	9 0
	5 3 0
	4 2 0
	9 4 8 0
	1 0 5 2 0

g.  $1913 + 6242 + 8024 + 643$

Actual Values	
	1 9 1 3
	6 2 4 2
	8 0 2 4
	6 4 3
Sum	1 6 8 2 2

Estimated Values nearest ten	
	1 9 1 0
	6 2 4 0
	8 0 2 0
	6 4 0
	1 6 8 1 0

h.  $1568 + 603 + 172 + 3265$

Actual Values	
	1 5 6 8
	6 0 3
	1 7 2
	+ 3 2 6 5
Sum	5 6 0 8

Estimated Values nearest ten	
	1 5 7 0
	6 0 0
	1 7 0
	3 2 7 0
	5 6 1 0

i.  $8263 + 2096 + 294 + 93 + 611$

Actual Values	
	8 2 6 3
	2 0 9 6
	2 9 4
	9 3
	6 1 1
Sum	1 1 3 5 7

Estimated Values nearest ten	
	8 2 6 0
	2 1 0 0
	2 9 0
	9 0
	6 1 0
	1 1 3 5 0

**MCQs**

Tick (✓) the correct option :

1. ii.    2. ii.    3. i.    4. iii.    5. iii.

# 5 Subtraction

## Exercise 5.1

### 1. Subtract the following :

Ans. a. 
$$\begin{array}{r} 48276 \\ - 33165 \\ \hline 15111 \end{array}$$
 b. 
$$\begin{array}{r} 63043 \\ - 22021 \\ \hline 41022 \end{array}$$
 c. 
$$\begin{array}{r} 98644 \\ - 23423 \\ \hline 75221 \end{array}$$
 d. 
$$\begin{array}{r} 87639 \\ - 25428 \\ \hline 62211 \end{array}$$

### 2. Work out the following sums :

Ans. a. 
$$\begin{array}{r} 92963 \\ - 42042 \\ \hline 50921 \end{array}$$
 b. 
$$\begin{array}{r} 86439 \\ - 75229 \\ \hline 11210 \end{array}$$
 c. 
$$\begin{array}{r} 648428 \\ - 425008 \\ \hline 223420 \end{array}$$
 d. 
$$\begin{array}{r} 980699 \\ - 240499 \\ \hline 740200 \end{array}$$

e. 
$$\begin{array}{r} 92963 \\ - 42042 \\ \hline 50921 \end{array}$$
 f. 
$$\begin{array}{r} 848526 \\ - 426114 \\ \hline 422412 \end{array}$$

g. Largest 5-digit number = 99,999  
Smallest 5-digit number = - 10,000  
difference between them =  $\underline{89,999}$

g. Largest 6-digit number = 99,99,999  
Smallest 4-digit number = - 1,000  
difference between them =  $\underline{9,98,999}$

## Exercise 5.2

### 1. Subtract the following :

① Ans. a. 
$$\begin{array}{r} \text{T-Th Th H T O} \\ 4 \quad 18 \quad 8 \quad 14 \quad 10 \\ 5 \quad 8 \quad 9 \quad 5 \quad 0 \\ - 1 \quad 9 \quad 4 \quad 7 \quad 5 \\ \hline 3 \quad 9 \quad 4 \quad 7 \quad 5 \end{array}$$
 b. 
$$\begin{array}{r} \text{T-Th Th H T O} \\ 6 \quad 12 \quad \quad 8 \quad 18 \\ 7 \quad 2 \quad 4 \quad 9 \quad 8 \\ - 4 \quad 5 \quad 2 \quad 8 \quad 9 \\ \hline 2 \quad 7 \quad 2 \quad 0 \quad 9 \end{array}$$
 c. 
$$\begin{array}{r} \text{T-Th Th H T O} \\ 3 \quad 10 \quad 10 \quad 4 \quad 12 \\ 4 \quad 1 \quad 0 \quad 5 \quad 2 \\ - 2 \quad 3 \quad 1 \quad 4 \quad 7 \\ \hline 1 \quad 7 \quad 9 \quad 0 \quad 5 \end{array}$$

d. 
$$\begin{array}{r} 7 \quad 11 \quad 12 \quad 14 \quad \quad \\ 8 \quad 2 \quad 3 \quad 4 \quad 5 \\ - 6 \quad 3 \quad 4 \quad 8 \quad 0 \\ \hline 1 \quad 8 \quad 8 \quad 6 \quad 5 \end{array}$$
 e. 
$$\begin{array}{r} 1 \quad 12 \quad 10 \quad \quad \quad \\ 2 \quad 3 \quad 0 \quad 2 \quad 8 \\ - 1 \quad 4 \quad 6 \quad 1 \quad 7 \\ \hline 8 \quad 4 \quad 1 \quad 1 \quad \quad \end{array}$$
 f. 
$$\begin{array}{r} \quad 7 \quad 11 \quad 13 \quad \quad \\ 1 \quad 8 \quad 2 \quad 3 \quad 6 \\ - 1 \quad 1 \quad 5 \quad 8 \quad 4 \\ \hline 6 \quad 6 \quad 5 \quad 2 \quad \quad \end{array}$$

g. 
$$\begin{array}{r} 5 \quad 15 \quad 6 \quad 10 \quad 11 \\ 6 \quad 5 \quad 7 \quad 1 \quad 1 \\ - 2 \quad 8 \quad 3 \quad 2 \quad 6 \\ \hline 3 \quad 7 \quad 2 \quad 8 \quad 5 \end{array}$$
 h. 
$$\begin{array}{r} 1 \quad 12 \quad 10 \quad \quad \quad \\ 2 \quad 3 \quad 0 \quad 2 \quad 8 \\ - 1 \quad 4 \quad 6 \quad 1 \quad 7 \\ \hline 8 \quad 4 \quad 1 \quad 1 \quad \quad \end{array}$$

2. Find the difference between :

Ans. a. 
$$\begin{array}{r} 71 \quad 810 \\ 51690 \\ - 38508 \\ \hline 13182 \end{array}$$
 b. 
$$\begin{array}{r} 311 \quad 810 \\ 24170 \\ - 13253 \\ \hline 10917 \end{array}$$
 c. 
$$\begin{array}{r} 11616 \\ 19276 \\ - 11098 \\ \hline 8178 \end{array}$$
 d. 
$$\begin{array}{r} 310 \quad 1214 \quad 11 \\ 41351 \\ - 26476 \\ \hline 14875 \end{array}$$

Exercise 5.3

1. Fill in the blanks :

- Ans. a. 87943      b. 82334      c. 28005  
 d. 64437      e. 72467      f. 63972  
 g. 31568      h. 92045

2. Word problems :

Ans. a. Sugar was stored = 
$$\begin{array}{r} 81715131115 \\ 986425 \\ \text{Sugar sold} = - 698456 \\ \hline \text{Sugar is left} = 287969 \end{array}$$

So, 287969 kg Sugar is left in godown.

b. Population after 10 year = 
$$\begin{array}{r} 81715131115 \\ 986425 \\ \text{Population before 10 years} = - 698456 \\ \hline \text{Sugar is left} = 287969 \end{array}$$

So, 615840 population was increased in 10 years.

c. Candidates appeared = 
$$\begin{array}{r} 817151115 \\ 798642 \\ \text{Candidates passed} = - 428999 \\ \hline \text{Candidates failed} = 369643 \end{array}$$

So 369643 candidates failed in the examination.

d. Sum of two numbers = 
$$\begin{array}{r} 817151115 \\ 79832 \\ \text{First number} = - 38642 \\ \hline \text{Other number} = 41190 \end{array}$$

So, the other number is 41190.

e. Population of other town = 
$$\begin{array}{r} 514 \quad 810 \\ 64890 \\ \text{Population of first town} = - 56469 \\ \hline \text{Difference} = 8421 \end{array}$$

So, 8421 population of other town is more than first town.

f. The population of a city = 
$$\begin{array}{r} 716151312 \\ 876423 \\ \text{numbers of man out of it} = - 379642 \\ \hline \text{number of women and children} = 496781 \end{array}$$

So, there are 4976781 women and children in the city.

$$\begin{array}{r}
 \text{g. The population of a city} = 7\ 16\ 15\ 13\ 12 \\
 \text{numbers of man out of it} = 5\ 6\ 0\ 0\ 0\ 0 \text{ votes} \\
 \ominus \text{Difference} = -2\ 4\ 6\ 3\ 9\ 9 \text{ votes} \\
 \hline
 = 3\ 1\ 3\ 6\ 0\ 1 \text{ votes}
 \end{array}$$

So, the second candidate won by 313601 votes.

$$\begin{array}{r}
 \text{h. Total numbers of boys and girls} = 7\ 16\ 15\ 13\ 12\ 12 \\
 \text{Numbers of girls out of them} = 8\ 7\ 6\ 4\ 3\ 2 \\
 \text{Numbers of boys} = -3\ 8\ 6\ 4\ 8\ 8 \\
 \hline
 = 4\ 7\ 9\ 9\ 4\ 4
 \end{array}$$

So, 479944 boys appeared in ISCE exam.

$$\begin{array}{r}
 \text{i. Trees were planted} = 7\ 9\ 9\ 15\ 14 \\
 \text{Trees were destroyed} = 8\ 0\ 0\ 6\ 4 \\
 \text{Tree were left} = -3\ 9\ 6\ 8\ 8 \\
 \hline
 = 4\ 0\ 3\ 7\ 6
 \end{array}$$

So, 40376 trees were left in the city.

#### Exercise 5.4

#### 1. Solve using compensation :

a. $560 + 105$ $= 560 + 5 + 105 - 5$ $= 565 + 100$ $= 665$	b. $302 + 362$ $= 302 - 2 + 362 + 2$ $= 300 + 364$ $= 664$
c. $442 + 305$ $= 442 + 5 + 302 - 5$ $= 447 + 300$ $= 747$	d. $198 + 232$ $= 198 + 2 + 232 - 2$ $= 200 + 230$ $= 430$
e. $84 - 28$ $= 84 + 2 - 28 + 2$ $= 86 - 30$ $= 56$	f. $96 - 54$ $= 96 - 4 - 54 - 4$ $= 92 - 50$ $= 42$
g. $56 - 38$ $= 56 + 2 - 38 + 2$ $= 48 - 40$ $= 18$	h. $136 - 68$ $= 136 + 2 - 68 + 2$ $= 138 - 70$ $= 68$

#### 2. Word Problems :

$$\begin{array}{r}
 \text{a. Number of women} = 32644 \\
 \text{Number of children} = +12643 \\
 \text{Total number of women} \\
 \text{and children} = 45287 \\
 \text{Population of town} = 89006 \\
 \text{Number of men} = 89006 - 45287 \\
 = 43719
 \end{array}$$

$$\begin{array}{r}
 8\ 9\ 9\ 16 \\
 8\ 9\ 0\ 0\ 6 \\
 -4\ 5\ 2\ 8\ 7 \\
 \hline
 4\ 3\ 7\ 1\ 9
 \end{array}$$

So, there are 43719 men in the town.



$$\begin{array}{r}
 \text{b. The shirts were} \\
 \text{The shirts were sold} \\
 \text{The shirts were left} \\
 \text{New shirts were gotten} \\
 \text{Total shirts are now}
 \end{array}
 =
 \begin{array}{r}
 \overset{\textcircled{7}}{6} \overset{\textcircled{11}}{8} \overset{\textcircled{14}}{2} 4 9 \\
 -3 2 9 9 6 \\
 \hline
 3 5 2 5 3 \\
 +1 4 9 6 2 \\
 \hline
 5 0 2 1 5
 \end{array}$$

So, there are 50,215 shirts in this shop.

$$\begin{array}{r}
 \text{c. First number} \\
 \text{Second number} \\
 \text{Sum of both numbers} \\
 \text{Minuend} \\
 \text{Subtrahend} \\
 \text{⊖ Difference}
 \end{array}
 =
 \begin{array}{r}
 \overset{\textcircled{1}}{1} \overset{\textcircled{1}}{5} 8 6 2 \\
 4 6 8 2 4 \\
 \hline
 6 2 6 8 6 \\
 8 7 2 0 0 \\
 \hline
 6 2 6 8 6 \\
 \hline
 2 4 5 1 4
 \end{array}$$

$$\begin{array}{r}
 \text{d. The cost of computer} \\
 \text{The cost of television} \\
 \text{Total cost of them} \\
 \text{Sunita gave shopkeeper} \\
 \text{Shop keeper will return}
 \end{array}
 =
 \begin{array}{r}
 \overset{\textcircled{1}}{\text{₹}} \overset{\textcircled{1}}{2} \overset{\textcircled{1}}{5} 2 5 0 \\
 + \text{₹} 9 9 9 5 \\
 \hline
 \text{₹} 3 5 2 4 5 \\
 \text{₹} 3 6 0 0 0 \\
 \hline
 \text{₹} (36000 - 35245) = \text{₹} 755
 \end{array}$$

$$\begin{array}{r}
 \overset{\textcircled{8}}{3} \overset{\textcircled{9}}{6} \overset{\textcircled{9}}{0} \overset{\textcircled{16}}{0} 0 \\
 - 3 5 2 4 5 \\
 \hline
 7 5 5
 \end{array}$$

So, the shopkeeper will return ₹ 755.

$$\begin{array}{r}
 \text{e. Cost price of motorcycle} \\
 \text{Expenditure in repair} \\
 \text{Total expenditure} \\
 \text{Selling price} \\
 \text{Gain}
 \end{array}
 =
 \begin{array}{r}
 \text{₹} 2 8 4 4 0 \\
 \text{₹} 5 8 4 0 \\
 + \text{₹} 3 4 2 8 0 \\
 \hline
 \text{₹} 3 6 0 5 0 \\
 \text{₹} 3 6 0 5 0 \\
 \hline
 \text{₹} (36050 - 34280) = \text{₹} 1770
 \end{array}$$

$$\begin{array}{r}
 \overset{\textcircled{8}}{3} \overset{\textcircled{9}}{6} \overset{\textcircled{9}}{0} \overset{\textcircled{16}}{5} 0 \\
 - 3 4 2 8 0 \\
 \hline
 1 7 7 0
 \end{array}$$

So, Tushar got profit ₹ 1770.

### Exercise 5.5

1. a. Actual values Estimated Values  
nearest hundreds

$$\begin{array}{r}
 5138 \\
 - 2197 \\
 \hline
 2941
 \end{array}
 \qquad
 \begin{array}{r}
 5100 \\
 - 2200 \\
 \hline
 2900
 \end{array}$$

⊙ Estimated difference = **2900**

b. Actual values Estimated Values  
nearest hundreds

$$\begin{array}{r}
 5138 \\
 - 2197 \\
 \hline
 2941
 \end{array}
 \qquad
 \begin{array}{r}
 5100 \\
 - 2200 \\
 \hline
 2900
 \end{array}$$

⊙ Estimated difference = **300**

c. Actual values

$$\begin{array}{r} 9336 \\ - 4771 \\ \hline 4565 \end{array}$$

Difference

⊙ Estimated difference = **4500**

Estimated Values

nearest hundreds

$$\begin{array}{r} 9300 \\ - 4800 \\ \hline 4500 \end{array}$$

d. Actual values

$$\begin{array}{r} 9334 \\ - 3872 \\ \hline 5462 \end{array}$$

Difference

⊙ Estimated difference = **5400**

Estimated Values

nearest hundreds

$$\begin{array}{r} 9300 \\ - 3900 \\ \hline 5400 \end{array}$$

2. **Make an estimation of each of the following subtraction. compare your answer with the actual difference :**

a. Actual values

$$\begin{array}{r} 7893 \\ 3822 \\ 618 \\ 55 \end{array}$$

$$\begin{aligned} \text{Estimated difference} &= 7900 - 3800 - 600 - 100 \\ &= 7900 - 4500 = 3400 \end{aligned}$$

$$\begin{aligned} \text{Actual difference} &= 7893 - 3822 - 618 - 55 \\ &= 7893 - (3822 + 618 + 55) \\ &= 7893 - (4495) \\ &= 7893 - 4495 \\ &= 3398 \end{aligned}$$

estimated values

nearest hundred's

$$\begin{array}{r} 7900 \\ 3800 \\ 600 \\ 100 \end{array}$$

b. Actual values

$$\begin{array}{r} 11832 \\ 3655 \\ 818 \\ 36 \end{array}$$

$$\begin{aligned} \text{Actual difference} &= 11832 - 3655 - 818 - 36 \\ &= 11832 - (3655 + 818 + 36) \\ &= 11832 - 4509 \\ &= 7323 \end{aligned}$$

estimated values

nearest hundred's

$$\begin{array}{r} 11800 \\ 3700 \\ 800 \\ 00 \end{array}$$

$$\begin{aligned} \text{Estimated difference} &= 11800 - 3700 - 800 - 0 \\ &= 11800 - (3700 + 800 + 0) \\ &= 11800 - 4500 \\ &= \mathbf{7300} \end{aligned}$$

c. Actual values

estimated values  
nearest hundred's

	15697	15700
	3875	3900
	215	200
	33	00
Actual difference	=	$15697 - 3875 - 215 - 33$
	=	$15697 - (3875 + 215 + 33)$
	=	$15697 - 4123$
	=	11574
Estimated difference	=	$15700 - 3900 - 200 - 0$
	=	$15700 - (3900 + 200 + 0)$
	=	$15700 - 4100$
	=	<b>11600</b>

d. Actual values		estimated values nearest hundred's
	16635	16600
	38	00
	4785	4800
	609	600
Actual difference	=	$16635 - 38 - 4785 - 609$
	=	$16635 - (38 + 4785 + 609)$
	=	$16635 - 5432$
	=	<b>11203</b>
Estimated difference	=	$16600 - 00 - 4800 - 600$
	=	$16600 - (0 + 4800 + 600)$
	=	$16600 - 5400$
	=	<b>11200</b>

e. Actual values		estimated values nearest hundred's
	61537	61500
	478	500
	65	100
	3876	3900
Actual difference	=	$61537 - 478 - 65 - 3876$
	=	$61537 - (478 + 65 + 3876)$
	=	$61537 - 4419$
	=	<b>57,118</b>
Estimated difference	=	$61500 - 500 - 100 - 3900$
	=	$61500 - (500 + 100 + 3900)$
	=	$61500 - 4500$
	=	<b>57000</b>

## MCQs

Tick (✓) the correct option :

Ans. 1. ii    2. i    3. ii    4. iii    5. iv

## 6 Multiplication

### Exercise 5.1

1. Subtract the following :

Ans. a. 
$$\begin{array}{r} 91 \\ \times 38 \\ \hline 728 \\ 2730 \\ \hline 3458 \end{array}$$

$91 \times 38 = 3458$

b. 
$$\begin{array}{r} 73 \\ \times 45 \\ \hline 365 \\ 2920 \\ \hline 3285 \end{array}$$

$73 \times 45 = 3285$

c. 
$$\begin{array}{r} 46 \\ \times 88 \\ \hline 368 \\ 3680 \\ \hline 4048 \end{array}$$

$46 \times 88 = 4048$

d. 
$$\begin{array}{r} 19 \\ \times 59 \\ \hline 171 \\ 9500 \\ \hline 1121 \end{array}$$

$19 \times 59 = 1121$

e. 
$$\begin{array}{r} 55 \\ \times 86 \\ \hline 330 \\ 4400 \\ \hline 4730 \end{array}$$

$55 \times 86 = 4730$

f. 
$$\begin{array}{r} 36 \\ \times 39 \\ \hline 324 \\ 1080 \\ \hline 1404 \end{array}$$

$36 \times 39 = 1404$

### Exercise 6.2

1. Subtract the following :

Ans. a. 
$$\begin{array}{r} 235 \\ \times 19 \\ \hline 2115 \\ 2350 \\ \hline 4465 \end{array}$$

$235 \times 19 = 4465$

b. 
$$\begin{array}{r} 187 \\ \times 94 \\ \hline 748 \\ 16830 \\ \hline 17578 \end{array}$$

$386 \times 93 = 35898$

c. 
$$\begin{array}{r} 999 \\ \times 76 \\ \hline 5994 \\ 69930 \\ \hline 75924 \end{array}$$

$999 \times 76 = 75924$

d. 
$$\begin{array}{r} 274 \\ \times 68 \\ \hline 2192 \\ 16440 \\ \hline 18632 \end{array}$$

$274 \times 68 = 18632$

e. 
$$\begin{array}{r} 386 \\ \times 93 \\ \hline 1158 \\ 34740 \\ \hline 35898 \end{array}$$

$274 \times 68 = 18632$

f. 
$$\begin{array}{r} 488 \\ \times 64 \\ \hline 7952 \\ 2980 \\ \hline 31232 \end{array}$$

$488 \times 64 = 31232$

### Exercise 6.3

#### 1. Multiply :

Ans. a. 
$$\begin{array}{r} 3987 \\ \times 36 \\ \hline 23922 \\ 119610 \\ \hline 143532 \end{array}$$
  
 $\odot 3987 \times 36 = 143532$

b. 
$$\begin{array}{r} 2487 \\ \times 46 \\ \hline 14922 \\ 99480 \\ \hline 114402 \end{array}$$
  
 $\odot 2487 \times 46 = 114402$

c. 
$$\begin{array}{r} 9624 \\ \times 65 \\ \hline 48120 \\ 577440 \\ \hline 625560 \end{array}$$
  
 $\odot 9624 \times 65 = 625560$

d. 
$$\begin{array}{r} 8678 \\ \times 93 \\ \hline 26037 \\ 781020 \\ \hline 807054 \end{array}$$
  
 $\odot 8678 \times 9 = 807054$

e. 
$$\begin{array}{r} 9204 \\ \times 48 \\ \hline 73631 \\ 368160 \\ \hline 441792 \end{array}$$
  
 $\odot 9204 \times 48 = 441792$

f. 
$$\begin{array}{r} 3833 \\ \times 26 \\ \hline 22998 \\ 76660 \\ \hline 99658 \end{array}$$
  
 $\odot 3833 \times 26 = 99658$

g. 
$$\begin{array}{r} 7248 \\ \times 65 \\ \hline 65232 \\ 72480 \\ \hline 137712 \end{array}$$
  
 $\odot 7248 \times 19 = 137712$

h. 
$$\begin{array}{r} 9632 \\ \times 12 \\ \hline 19264 \\ 96320 \\ \hline 115584 \end{array}$$
  
 $\odot 9632 \times 12 = 115584$

### Exercise 6.4

#### 1. Multiply :

Ans. a. 
$$\begin{array}{r} 384 \\ \times 216 \\ \hline 2304 \\ 3440 \\ 76800 \\ \hline 82944 \end{array}$$
  
 $\odot 384 \times 216 = 82944$

b. 
$$\begin{array}{r} 148 \\ \times 324 \\ \hline 592 \\ 2960 \\ 44400 \\ \hline 47952 \end{array}$$
  
 $\odot 148 \times 324 = 47952$

c. 
$$\begin{array}{r} 486 \\ \times 396 \\ \hline 2916 \\ 43470 \\ 145800 \\ \hline 192456 \end{array}$$
  
 $\odot 486 \times 396 = 192456$

d. 
$$\begin{array}{r} 248 \\ \times 628 \\ \hline 1984 \\ 4960 \\ 148800 \\ \hline 155744 \end{array}$$
  
 $\odot 248 \times 628 = 155744$

e. 
$$\begin{array}{r} 640 \\ \times 567 \\ \hline 4480 \\ 38400 \\ 320000 \\ \hline 362880 \end{array}$$
  
 $\odot 640 \times 567 = 362880$

f. 
$$\begin{array}{r} 389 \\ \times 624 \\ \hline 778 \\ 15560 \\ 233400 \\ \hline 249738 \end{array}$$
  
 $\odot 389 \times 642 = 249738$

g. 
$$\begin{array}{r} 527 \\ \times 278 \\ \hline 4608 \\ 40320 \\ 115200 \\ \hline 160128 \end{array}$$
  
 $\odot 576 \times 278 = 160128$

h. 
$$\begin{array}{r} 963 \\ \times 843 \\ \hline 2889 \\ 38520 \\ 770400 \\ \hline 811809 \end{array}$$
  
 $\odot 963 \times 843 = 811809$

### MCQs

Tick (✓) the correct option :

Ans. 1. iii    2. iii    3. iv    4. ii    5. iv

### Exercise 6.5

Find the product in the easier way (by splitting) :

- Ans. a.  $9 \times 85 = 9 \times (80 + 5) = 9 \times 80 + 9 \times 5 = 720 + 45 = 765$   
 b.  $7 \times 210 = 7 \times (200 + 10) = 7 \times 200 + 7 \times 10 = 1400 + 70 = 1470$   
 c.  $8 \times 105 = 8 \times (100 + 5) = 8 \times 100 + 8 \times 5 = 800 + 40 = 840$   
 d.  $3 \times 108 = 3 \times (100 + 8) = 3 \times 100 + 3 \times 8 = 300 + 24 = 324$   
 e.  $7 \times 312 = 7 \times (300 + 12) = 7 \times 300 + 7 \times 12 = 2100 + 84 = 2184$   
 f.  $5 \times 209 = 5 \times (200 + 9) = 5 \times 200 + 5 \times 9 = 1000 + 45 = 1045$   
 g.  $4 \times 180 = 4 \times (100 + 80) = 4 \times 100 + 4 \times 80 = 400 + 320 = 720$   
 h.  $9 \times 405 = 9 \times (400 + 5) = 9 \times 400 + 9 \times 5 = 3600 + 45 = 3645$   
 i.  $6 \times 515 = 6 \times (500 + 15) = 6 \times 500 + 6 \times 15 = 3000 + 90 = 3090$   
 j.  $8 \times 450 = 8 \times (400 + 50) = 8 \times 400 + 8 \times 50 = 3200 + 400 = 3600$   
 k.  $6 \times 507 = 6 \times (500 + 7) = 6 \times 500 + 6 \times 7 = 3000 + 42 = 3042$   
 l.  $4 \times 712 = 4 \times (700 + 12) = 4 \times 700 + 4 \times 12 = 2800 + 48 = 2848$

### Exercise 6.6

Multiply using expanded notation :

a.  $3775 \times 6$

5	$\times 6 =$	30
70	$\times 6 =$	420
700	$\times 6 =$	4200
3000	$\times 6 =$	+ 18000
		22650

So,  $3775 \times 6 = 22650$

b.  $8241 \times 5$

1	$\times 5 =$	5
40	$\times 5 =$	200
200	$\times 5 =$	1000
8000	$\times 5 =$	+ 40000
		41205

So,  $8241 \times 5 = 41205$

c.  $3397 \times 2$

7	$\times 2 =$	14
90	$\times 2 =$	180
300	$\times 2 =$	600
3000	$\times 2 =$	+ 6000
		6794

So,  $3397 \times 2 = 6794$

d.  $4228 \times 4$

8	$\times 4 =$	32
20	$\times 4 =$	80
200	$\times 4 =$	800
4000	$\times 4 =$	+ 16000
		16912

So,  $4228 \times 4 = 16912$

e.  $6253 \times 4$

3	$\times 4 =$	12
50	$\times 4 =$	200
200	$\times 4 =$	800
6000	$\times 4 =$	+ 24000
		25012

So,  $6253 \times 4 = 25012$

f.  $9896 \times 4$

6	$\times 4 =$	24
90	$\times 4 =$	360
800	$\times 4 =$	3200
9000	$\times 4 =$	+ 36000
		39584

So,  $9896 \times 4 = 39584$

g.  $9268 \times 3$

8	$\times 3 =$	24
60	$\times 3 =$	180
200	$\times 3 =$	600
9000	$\times 3 =$	+ 27000
		27804

So,  $9268 \times 3 = 27804$

h.  $8398 \times 2$

8	$\times 2 =$	16
90	$\times 2 =$	180
300	$\times 2 =$	600
8000	$\times 2 =$	+ 16000
		16796

So,  $8398 \times 2 = 16796$

$$\begin{array}{r}
 \text{i. } 7794 \times 8 \\
 \begin{array}{r}
 \phantom{000} 4 \times 8 = 32 \\
 \phantom{00} 90 \times 8 = 720 \\
 \phantom{0} 200 \times 3 = 5600 \\
 9000 \times 3 = +56000 \\
 \hline
 62352
 \end{array}
 \end{array}$$

So,  $7794 \times 8 = 62352$

### Exercise 6.7

Fill in the blanks :

- Ans. a.  $7 \times 100 = 700$                       b.  $9 \times 300 = 2700$   
 c.  $5 \times 900 = 4500$                       d.  $22 \times 700 = 15400$   
 e.  $8 \times 9000 = 72000$                       f.  $6 \times 900 = 5400$   
 g.  $16 \times 600 = 9600$                       h.  $12 \times 700 = 8400$   
 i.  $3 \times 4000 = 12000$                       j.  $25 \times 500 = 12500$

### Exercise 6.8

1. Use the rules of multiplication to fill in the blanks :

- a.  $32648 \times 0 = 0$   
 b.  $46848 \times 1 = 46848$   
 c.  $21721 \times 42608 = 42608 \times 21721$   
 d.  $(49964 \times 48) \times 99 = (49964 \times (48 \times 99))$   
 e.  $0 \times 644896 = 0$   
 f.  $1 \times 998784 = 998784$   
 g.  $6 \times 78324 = 788324 \times 6$   
 h.  $90 \times 6 \times 32148 = 32148 \times 6 \times 90$

2. Fill in the blanks using the properties of multiplication :

- a.  $3876 \times 0 = 0$   
 b.  $1248 \times 1 = 1248$   
 c.  $3820 \times 3 \times 2141 = 2141 \times 3 \times 3820$   
 d.  $368 \times 248 \times 643 \times 0 = 0$   
 e.  $7834 \times 1 = 7834$   
 f.  $0 \times 6423 = 0$   
 g.  $(1187 \times 36) \times 9 = 1187 \times (36 \times 9)$   
 h.  $9942 \times 876 = 876 \times 9942$

### Exercise 6.9

1. Solve Using Lattice Multiplication :

a.  $339 \times 63 = 21,357$

		3	3	9	
2	$\begin{array}{ c c c } \hline 1 & 8 & 5 \\ \hline \end{array}$	$\begin{array}{ c c c } \hline 1 & 8 & 4 \\ \hline \end{array}$	$\begin{array}{ c c c } \hline 5 & 4 & 6 \\ \hline \end{array}$		6
1	$\begin{array}{ c c c } \hline 0 & 9 & 2 \\ \hline \end{array}$	$\begin{array}{ c c c } \hline 0 & 9 & 7 \\ \hline \end{array}$	$\begin{array}{ c c c } \hline 2 & 7 & 3 \\ \hline \end{array}$		3
	3	5	7		

b.  $972 \times 12 = 11664$

		9	7	2	
	$\begin{array}{ c c c } \hline 0 & 9 & 0 \\ \hline \end{array}$	$\begin{array}{ c c c } \hline 0 & 7 & 0 \\ \hline \end{array}$	$\begin{array}{ c c c } \hline 0 & 2 & 1 \\ \hline \end{array}$		1
	$\begin{array}{ c c c } \hline 1 & 8 & 1 \\ \hline \end{array}$	$\begin{array}{ c c c } \hline 1 & 4 & 0 \\ \hline \end{array}$	$\begin{array}{ c c c } \hline 0 & 4 & 2 \\ \hline \end{array}$		2
	6	4	4		

c.  $326 \times 42 = 13692$

	3	2	6	
1	1	2	0	8
3	0	6	0	9
	6	9	2	

e.  $432 \times 24 = 10368$

	4	3	2	
1	0	8	0	6
0	1	6	1	2
	3	6	8	

d.  $234 \times 41 = 9594$

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

f.  $256 \times 65 = 16640$

	2	5	6	
1	1	2	3	0
6	1	0	2	5
	6	4	0	

**2. Word Problems :**

a. The cost of 1 table = ₹ 995

The cost of 684 tables = ₹ 995 × 684

= ₹ 680580

So, the cost of 684 tables is ₹ 680580.

	995
	×684
	3980
	79600
	+597000
	680580

b. An engine draws out water in 1 hour = 9648 l

An engine draws out water in 9 hour = 9648 × 9

= 86832 l.

So, An engine will draw out 86832 litres of water.

	(5) (4) (7)
	9648
	×9
	86832

c. The cost of 1 uniform set = ₹ 876

The cost of 496 uniform set = ₹ 876 × 496

= ₹ 434496

So, the cost of 496 uniform set will be ₹ 434496.

	876
	×496
	5296
	78840
	+350400
	434496

d. 1 packet contains = 289 sweets

∴ 396 packet contain = 289 × 396 sweets

= 114444 sweets

So, 11,4,444 sweets can be packed in 396 packets.

e. 1 year = 12 months

∴ 7 years = 12 × 7 = 84 months

Mr. John earns in 1 month = ₹ 9600.

He will earn in 84 months = ₹ 9600 × 84

= ₹ 8,06,400

So, Mr John will earn ₹ 8,06,400 in 7 years.

	876
	×496
	5296
	78840
	+350400
	434496

	9600
	×84
	38400
	768000
	806400



- f. The cost of 1 toy = ₹ 56  
 The cost of 496 toys = ₹ 56 × 496 = ₹ 27,776

$$\begin{array}{r} 56 \\ \times 496 \\ \hline 366 \\ 5040 \\ +22400 \\ \hline 27776 \end{array}$$

So, the total cost of toys will be ₹ 27,776.

- g. Weight of 1 sugar bag = 240 kg  
 Weight of 673 sugar bags = 240 × 673  
 = 1,61,520 kg

$$\begin{array}{r} 240 \\ \times 673 \\ \hline 720 \\ 16800 \\ +144000 \\ \hline 161520 \end{array}$$

- h. 1 week = 7 days  
 Expenditure of 1 labourer for 1 week = ₹ 180 × 7  
 = ₹ 1260  
 Expenditure of 48 labourers for 1 week = ₹ 1260 × 48  
 = ₹ 60,480

$$\begin{array}{r} 1260 \\ \times 48 \\ \hline 10080 \\ +50480 \\ \hline 60480 \end{array}$$

₹ 60,480 will be the total expenditure for 48 labourers.

- i. In 1 hour a bus can travel = 72 km  
 In 235 hours the bus can travel = 72 × 235 km  
 = 16,920 km.

$$\begin{array}{r} 72 \\ \times 235 \\ \hline 360 \\ 2160 \\ +14400 \\ \hline 16920 \end{array}$$

So, It can travel 16,920 km in 235 hours.

- j. In 1 cinema hall can be sit persons = 1825  
 In 32 cinema halls can be sit persons = 1825 × 32

$$\begin{array}{r} 1825 \\ \times 32 \\ \hline 3650 \\ +54750 \\ \hline 58400 \end{array}$$

So, 58,400 persons can sit in 32 cinema halls.

### MCQs

Tick (✓) the correct option :

Ans. 1. iii    2. ii    3. ii    4. iii    5. ii

# 7 Division

## Exercise 7.1

1. Divide the following :

Ans. a. 
$$\begin{array}{r} 9 \\ 5 \overline{)45} \\ \underline{-45} \\ 0 \end{array}$$
  
Q = 9, R = 0

b. 
$$\begin{array}{r} 18 \\ 5 \overline{)36} \\ \underline{-2} \\ 16 \\ \underline{-16} \\ 0 \end{array}$$
  
Q = 18, R = 0

c. 
$$\begin{array}{r} 7 \\ 7 \overline{)49} \\ \underline{-49} \\ 0 \end{array}$$
  
Q = 7, R = 0

d. 
$$\begin{array}{r} 8 \\ 9 \overline{)72} \\ \underline{-72} \\ 0 \end{array}$$
  
Q = 8, R = 0

2. Divide :

Ans. a. 
$$\begin{array}{r} 26 \\ 4 \overline{)104} \\ \underline{-8} \\ 24 \\ \underline{-24} \\ 0 \end{array}$$
  
Q = 26, R = 0

b. 
$$\begin{array}{r} 65 \\ 3 \overline{)195} \\ \underline{-18} \\ 15 \\ \underline{-15} \\ 0 \end{array}$$
  
Q = 65, R = 0

c. 
$$\begin{array}{r} 58 \\ 3 \overline{)522} \\ \underline{-45} \\ 72 \\ \underline{-72} \\ 0 \end{array}$$
  
Q = 58, R = 0

d. 
$$\begin{array}{r} 136 \\ 3 \overline{)816} \\ \underline{-6} \\ 21 \\ \underline{-18} \\ 36 \\ \underline{-36} \\ 0 \end{array}$$
  
Q = 136, R = 0

3. Find the quotient and remainder :

Ans. a. 
$$\begin{array}{r} 22 \\ 3 \overline{)68} \\ \underline{-6} \\ 08 \\ \underline{-6} \\ 2 \end{array}$$
  
Q = 22, R = 2

b. 
$$\begin{array}{r} 19 \\ 5 \overline{)98} \\ \underline{-8} \\ 13 \\ \underline{-8} \\ 5 \end{array}$$
  
Q = 19, R = 5

c. 
$$\begin{array}{r} 5 \\ 9 \overline{)47} \\ \underline{-45} \\ 2 \end{array}$$
  
Q = 5, R = 2

d. 
$$\begin{array}{r} 6 \\ 6 \overline{)38} \\ \underline{-36} \\ 2 \end{array}$$
  
Q = 6, R = 2

e. 
$$\begin{array}{r} 22 \\ 4 \overline{)90} \\ \underline{-8} \\ 10 \\ \underline{-8} \\ 2 \end{array}$$
  
Q = 22, R = 2

f. 
$$\begin{array}{r} 10 \\ 7 \overline{)75} \\ \underline{-7} \\ 05 \\ \underline{-0} \\ 5 \end{array}$$
  
Q = 10, R = 5

g. 
$$\begin{array}{r} 11 \\ 8 \overline{)93} \\ \underline{-8} \\ 13 \\ \underline{-8} \\ 5 \end{array}$$
  
Q = 11, R = 5

h. 
$$\begin{array}{r} 49 \\ 8 \overline{)99} \\ \underline{-8} \\ 19 \\ \underline{-18} \\ 1 \end{array}$$
  
Q = 49, R = 1

$$\begin{array}{r} 35 \\ 8 \overline{)287} \\ -24 \\ \hline 47 \\ -40 \\ \hline 7 \end{array}$$

$$Q = 35, R = 7$$

$$\begin{array}{r} 57 \\ 6 \overline{)346} \\ -30 \\ \hline 46 \\ -42 \\ \hline 4 \end{array}$$

$$Q = 57, R = 4$$

$$\begin{array}{r} 121 \\ 2 \overline{)243} \\ -2 \\ \hline 04 \\ -4 \\ \hline 03 \\ 2 \\ \hline 1 \end{array}$$

$$Q = 121, R = 1$$

$$\begin{array}{r} 129 \\ 2 \overline{)649} \\ -5 \\ \hline 14 \\ -10 \\ \hline 49 \\ 49 \\ \hline 4 \end{array}$$

$$Q = 129, R = 4$$

**4. Find the dividend :**

**Ans.** a. Divisor = 4; Quotient = 2; Remainder = 1 Dividend = Divisor  $\times$  Quotient + Remainder =  $4 \times 2 + 1 = 8 + 1 = 9$   
So, Dividend = 9

b. Divisor = 9; Quotient = 6; Remainder = 5 =  $9 \times 6 + 5 = 54 + 5 = 59$   
So, Dividend = 59

**Exercise 7.2**

**Fill in the blanks :**

**Ans.** a.  $99,099 \div 1 = 99,099$

c.  $48,728 \div 48,728 = 1$

e.  $99,999 \div 99,999 = 1$

g.  $0 \div 86,435 = 0$

b.  $64,324 \div 1 = 64,324$

d.  $27,643 \div 27,643 = 1$

f.  $0 \div 68,394 = 0$

h.  $11,189 \div 1 = 11,189$

**Exercise 7.3**

**1. Divide :**

**Ans.** a. 
$$\begin{array}{r} 6537 \\ 4 \overline{)26148} \\ -24 \\ \hline 21 \\ -20 \\ \hline 14 \\ -12 \\ \hline 28 \\ -28 \\ \hline 0 \end{array}$$

$$Q = 6537, R = 0$$

b. 
$$\begin{array}{r} 5247 \\ 7 \overline{)36729} \\ -35 \\ \hline 17 \\ -14 \\ \hline 32 \\ -28 \\ \hline 49 \\ -49 \\ \hline 0 \end{array}$$

$$Q = 5247, R = 0$$

c. 
$$\begin{array}{r} 9236 \\ 4 \overline{)46180} \\ -45 \\ \hline 11 \\ -10 \\ \hline 18 \\ -15 \\ \hline 30 \\ -30 \\ \hline 0 \end{array}$$

$$Q = 9236, R = 0$$

d. 
$$\begin{array}{r} 6365 \\ 4 \overline{)57285} \\ -54 \\ \hline 32 \\ -27 \\ \hline 58 \\ -54 \\ \hline 45 \\ -45 \\ \hline 0 \end{array}$$

$$Q = 6365, R = 0$$

e. 
$$\begin{array}{r} 12695 \\ 7 \overline{)71085} \\ -6 \\ \hline 11 \\ -9 \\ \hline 20 \\ -18 \\ \hline 28 \\ -27 \\ \hline 15 \\ -15 \\ \hline 0 \end{array}$$

$$Q = 5247, R = 0$$

f. 
$$\begin{array}{r} 8426 \\ 4 \overline{)67408} \\ -64 \\ \hline 34 \\ -32 \\ \hline 20 \\ -16 \\ \hline 48 \\ -48 \\ \hline 0 \end{array}$$

$$Q = 8426, R = 0$$

2. Find the quotient and remainder :

Ans. a. 
$$\begin{array}{r} 2742 \\ 4 \overline{)24678} \\ \underline{-18} \phantom{00} \\ 32 \phantom{00} \\ \underline{-27} \phantom{00} \\ 58 \phantom{00} \\ \underline{-54} \phantom{00} \\ 45 \phantom{00} \\ \underline{-45} \phantom{00} \\ 0 \end{array}$$

Q = 2742, R = 0

b. 
$$\begin{array}{r} 3104 \\ 8 \overline{)24837} \\ \underline{-24} \phantom{00} \\ 08 \phantom{00} \\ \underline{-8} \phantom{00} \\ 037 \phantom{00} \\ \underline{-32} \phantom{00} \\ 5 \end{array}$$

Q = 3104, R = 5

c. 
$$\begin{array}{r} 32119 \\ 2 \overline{)64239} \\ \underline{-6} \phantom{00} \\ 04 \phantom{00} \\ \underline{-4} \phantom{00} \\ 02 \phantom{00} \\ \underline{-2} \phantom{00} \\ 03 \phantom{00} \\ \underline{-2} \phantom{00} \\ 19 \phantom{00} \\ \underline{18} \phantom{00} \\ 1 \end{array}$$

Q = 32119, R = 1

d. 
$$\begin{array}{r} 2742 \\ 7 \overline{)42323} \\ \underline{-42} \phantom{00} \\ 032 \phantom{00} \\ \underline{-28} \phantom{00} \\ 43 \phantom{00} \\ \underline{-42} \phantom{00} \\ 1 \end{array}$$

Q = 6046, R = 1

e. 
$$\begin{array}{r} 28282 \\ 3 \overline{)84848} \\ \underline{-6} \phantom{00} \\ 24 \phantom{00} \\ \underline{-24} \phantom{00} \\ 08 \phantom{00} \\ \underline{-6} \phantom{00} \\ 24 \phantom{00} \\ \underline{24} \phantom{00} \\ -08 \phantom{00} \\ \underline{6} \phantom{00} \\ 2 \end{array}$$

Q = 28282, R = 2

f. 
$$\begin{array}{r} 16081 \\ 6 \overline{)96487} \\ \underline{-6} \phantom{00} \\ 36 \phantom{00} \\ \underline{-36} \phantom{00} \\ 48 \phantom{00} \\ \underline{-44} \phantom{00} \\ 7 \phantom{00} \\ \underline{-6} \phantom{00} \\ 1 \end{array}$$

Q = 16081, R = 1

Exercise 7.4

1. Find the quotient :

Ans. a. 
$$\begin{array}{r} 25 \\ 26 \overline{)650} \\ \underline{-52} \phantom{00} \\ 130 \phantom{00} \\ \underline{-130} \phantom{00} \\ 0 \end{array}$$

Q = 25, R = 0

b. 
$$\begin{array}{r} 56 \\ 19 \overline{)1064} \\ \underline{-95} \phantom{00} \\ 114 \phantom{00} \\ \underline{-114} \phantom{00} \\ 0 \end{array}$$

Q = 56, R = 0

c. 
$$\begin{array}{r} 251 \\ 19 \overline{)3514} \\ \underline{-28} \phantom{00} \\ 71 \phantom{00} \\ \underline{-70} \phantom{00} \\ 14 \phantom{00} \\ \underline{-14} \phantom{00} \\ 0 \end{array}$$

Q = 251, R = 0

d. 
$$\begin{array}{r} 2569 \\ 6 \overline{)33397} \\ \underline{-26} \phantom{00} \\ 73 \phantom{00} \\ \underline{-65} \phantom{00} \\ 89 \phantom{00} \\ \underline{-78} \phantom{00} \\ 117 \phantom{00} \\ \underline{-117} \phantom{00} \\ 0 \end{array}$$

Q = 2569, R = 1

e. 
$$\begin{array}{r} 25 \\ 26 \overline{)222} \\ \underline{-222} \phantom{00} \\ 0 \end{array}$$

Q = 25, R = 0

f. 
$$\begin{array}{r} 102 \\ 19 \overline{)2244} \\ \underline{-22} \phantom{00} \\ 044 \phantom{00} \\ \underline{-44} \phantom{00} \\ 0 \end{array}$$

Q = 102, R = 0

g. 
$$\begin{array}{r} 36 \\ 38 \overline{)1368} \\ \underline{-114} \\ 228 \\ \underline{-228} \\ 0 \end{array}$$
 Q = 36, R = 0

h. 
$$\begin{array}{r} 369 \\ 45 \overline{)11605} \\ \underline{-135} \\ 310 \\ \underline{-270} \\ 405 \\ \underline{-405} \\ 0 \end{array}$$
 Q = 369, R = 0

i. 
$$\begin{array}{r} 693 \\ 45 \overline{)40194} \\ \underline{-348} \\ 539 \\ \underline{-522} \\ 174 \\ \underline{-174} \\ 0 \end{array}$$
 Q = 693, R = 0

j. 
$$\begin{array}{r} 69 \\ 36 \overline{)2487} \\ \underline{-216} \\ 324 \\ \underline{-345} \\ 0 \end{array}$$
 Q = 69, R = 0

k. 
$$\begin{array}{r} 789 \\ 45 \overline{)22881} \\ \underline{-203} \\ 258 \\ \underline{-232} \\ 261 \\ \underline{-261} \\ 0 \end{array}$$
 Q = 789, R = 0

l. 
$$\begin{array}{r} 147 \\ 38 \overline{)4557} \\ \underline{-31} \\ 145 \\ \underline{-124} \\ 217 \\ \underline{-217} \\ 0 \end{array}$$
 Q = 147, R = 0

**2. Find the quotient and remainder and check your answer :**

a. 
$$\begin{array}{r} 25 \\ 26 \overline{)249} \\ \underline{-238} \\ 11 \end{array}$$
 Divisor = 34    Remainder = 11  
Quotient = 7    Dividend = 249

Check : Dividend = Divisor  $\times$  Quotient + Remainder  
=  $34 \times 7 + 11 = 238 + 11 = 249$   
So, Division is correct.

b. 
$$\begin{array}{r} 57 \\ 26 \overline{)866} \\ \underline{-75} \\ 116 \\ \underline{-105} \\ 11 \end{array}$$
 Divisor = 15    Quotient = 57  
Remainder = 11,    Dividend = 866  
Check : Dividend = Divisor  $\times$  Quotient + Remainder  
=  $15 \times 57 + 11 = 855 + 11 = 866$   
So, Division is correct.

c. 
$$\begin{array}{r} 8 \\ 37 \overline{)319} \\ \underline{-296} \\ 23 \end{array}$$
 Divisor = 34    Remainder = 11  
Quotient = 7    Dividend = 249  
Check : Dividend = Divisor  $\times$  Quotient + Remainder  
=  $37 \times 8 + 23 = 269 + 23 = 319$   
So, Division is correct.

$$\begin{array}{r} 15 \\ 51 \overline{)784} \\ -51 \\ \hline 274 \\ -255 \\ \hline 19 \end{array}$$

Divisor = 51    Remainder = 15  
Quotient = 19    Dividend = 784

Check : Dividend = Divisor  $\times$  Quotient + Remainder  
= 51  $\times$  15 + 19 = 765 + 19 = 784

So, Division is correct.

$$\begin{array}{r} 45 \\ 26 \overline{)948} \\ -84 \\ \hline 108 \\ -105 \\ \hline 3 \end{array}$$

Divisor = 21    Quotient = 45  
Remainder = 3,    Dividend = 948

Check : Dividend = Divisor  $\times$  Quotient + Remainder  
= 21  $\times$  45 + 3 = 945 + 3 = 948

So, Division is correct.

$$\begin{array}{r} 8 \\ 28 \overline{)246} \\ -224 \\ \hline 22 \end{array}$$

Divisor = 28    Remainder = 8  
Quotient = 22    Dividend = 246

Check : Dividend = Divisor  $\times$  Quotient + Remainder  
= 28  $\times$  8 + 22 = 224 + 22 = 246

So, Division is correct.

### Exercise 7.5

#### 1. Divide :

Ans. a. 
$$\begin{array}{r} 8 \\ 10 \overline{)80} \\ -80 \\ \hline 0 \end{array}$$

Q = 8, R = 0

b. 
$$\begin{array}{r} 4 \\ 10 \overline{)40} \\ -40 \\ \hline 0 \end{array}$$

Q = 8, R = 0

c. 
$$\begin{array}{r} 29 \\ 2 \overline{)290} \\ -20 \\ \hline 90 \\ -90 \\ \hline 0 \end{array}$$

Q = 29, R = 0

d. 
$$\begin{array}{r} 36 \\ 2 \overline{)260} \\ -20 \\ \hline 60 \\ -60 \\ \hline 0 \end{array}$$

Q = 26, R = 0

e. 
$$\begin{array}{r} 32 \\ 10 \overline{)320} \\ -30 \\ \hline 20 \\ -20 \\ \hline 0 \end{array}$$

Q = 32, R = 0

f. 
$$\begin{array}{r} 450 \\ 10 \overline{)4500} \\ -40 \\ \hline 50 \\ -50 \\ \hline 0 \\ -0 \\ \hline 0 \end{array}$$

Q = 450, R = 0

#### 2. Divide :

Ans. a. 
$$\begin{array}{r} 2 \\ 100 \overline{)200} \\ -200 \\ \hline 0 \end{array}$$

Q = 8, R = 0

b. 
$$\begin{array}{r} 7 \\ 100 \overline{)700} \\ -700 \\ \hline 0 \end{array}$$

Q = 7, R = 0

c. 
$$\begin{array}{r} 9 \\ 100 \overline{)900} \\ -900 \\ \hline 0 \end{array}$$

Q = 9, R = 0

d. 
$$\begin{array}{r} 2 \\ 100 \overline{)6000} \\ -600 \\ \hline 00 \\ -0 \\ \hline 0 \end{array}$$

Q = 60, R = 0

$$\begin{array}{r} 80 \\ 100 \overline{)8000} \\ - 800 \\ \hline 00 \\ - 0 \\ \hline 0 \end{array}$$

$$Q = 80, R = 0$$

$$\begin{array}{r} 50 \\ 100 \overline{)5000} \\ - 500 \\ \hline 00 \\ - 0 \\ \hline 0 \end{array}$$

$$Q = 50, R = 0$$

### 3. Word Problems :

- a. Total expenditure for 2 sons = ₹ 939640  
 Expenditure for every son = ₹ 939640 ÷ 2  
 So, Mr. Das spend ₹ 4,69,820  
 on each son = ₹ 4,69,820

$$\begin{array}{r} 469720 \\ 4 \overline{)939640} \\ - 8 \\ \hline 13 \\ - 12 \\ \hline 19 \\ - 18 \\ \hline 16 \\ - 16 \\ \hline 4 \\ \hline 4 \\ \hline 00 \\ \hline 0 \\ \hline 0 \end{array}$$

- b. 5 villages received for flood  
 disaster = ₹ 985245  
 each village received for flood  
 disaster = ₹ 985245 ÷ 5  
 = ₹ 1,97,049

So, each village received ₹ 1,97,049.

$$\begin{array}{r} 197049 \\ 4 \overline{)985245} \\ - 5 \\ \hline 48 \\ - 45 \\ \hline 33 \\ - 35 \\ \hline 024 \\ - 20 \\ \hline 45 \\ \hline 45 \\ \hline 0 \end{array}$$

- c. The cost of 25 watches = ₹ 31250  
 The cost of 1 watch = ₹ 31250 ÷ 25  
 = ₹ 1250.

So, we require ₹ 1250 to purchase one watch.

$$\begin{array}{r} 1250 \\ 6 \overline{)31250} \\ - 25 \\ \hline 62 \\ - 125 \\ \hline 0 \\ \hline - 0 \\ \hline 0 \end{array}$$

- d. For 55 km Journey a bus takes time = 1 hour  
 For 1320 km Journey the bus will  
 take time = 1320 ÷ 55 hours  
 = 24 hours  
 So, the bus will take 24 hours to complete journey.

$$\begin{array}{r} 24 \\ 55 \overline{)1320} \\ - 110 \\ \hline 220 \\ \hline 220 \\ \hline 0 \end{array}$$

- e. 75 employees get salary every month = ₹ 990000  
 Each employee gets salary every month = ₹ 990000 ÷ 75  
 = ₹ 13200

$$\begin{array}{r} 13200 \\ 4 \overline{)990000} \\ \underline{-75} \\ 240 \\ \underline{-225} \\ 150 \\ \underline{-150} \\ 00 \\ \underline{-0} \\ 00 \\ \underline{-0} \\ 0 \end{array}$$

So, each employee gets ₹ 13200 per month.

- f. In 35 boxes were packed = 82915 oranges  
 In each box were packed = 82915 ÷ 35 oranges  
 = 2369 oranges

$$\begin{array}{r} 2369 \\ 35 \overline{)82915} \\ \underline{-70} \\ 129 \\ \underline{-105} \\ 241 \\ \underline{-210} \\ 315 \\ \underline{-315} \\ 0 \end{array}$$

So, 2369 oranges were packed in each box.

- g. 42 children get = 875 sweets  
 Each child gets = 875 ÷ 42  
 = Q = 20 and R = 35  
 So, each child gets 20 sweets and 35 sweets were left over.

$$\begin{array}{r} 200 \\ 4 \overline{)875} \\ \underline{-84} \\ 35 \\ \underline{-0} \\ 35 \text{ Remainder} \end{array}$$

- h. 28 kg wheat is filled in = 1 sack  
 91532 kg what will filled in = 91532 ÷ 28 sacks  
 So, the farmer will have to purchase = 3269 sacks.

$$\begin{array}{r} 3269 \\ 28 \overline{)91532} \\ \underline{-84} \\ 75 \\ \underline{-56} \\ 193 \\ \underline{-168} \\ 252 \end{array}$$

So, the farmer will have to purchase 3269 sacks for packing the wheat.

- i. Total money for purchasing books = ₹ 4750  
 The cost of 1 book = ₹ 38  
 Number of books = 4750 ÷ 38  
 = 125

$$\begin{array}{r} 125 \\ 38 \overline{)4750} \\ \underline{-38} \\ 95 \\ \underline{-76} \\ 190 \\ \underline{-190} \\ 0 \end{array}$$

So 125 books can be purchased



- j. Total distance travelled = 11580 km  
 Total time was taken = 12 hours  
 Speed km per hour = Distance  $\div$  time  
 =  $11580 \div 12$   
 = 965 km/hour

$$\begin{array}{r} 965 \\ 35 \overline{)11580} \\ \underline{-108} \phantom{0} \\ 78 \phantom{0} \\ \underline{-72} \phantom{0} \\ 60 \phantom{0} \\ \underline{-60} \\ 0 \end{array}$$

An aeroplane's speed is 965 km per hour.

### MCQs

Tick (✓) the correct option :

- Ans. 1. ii    2. iv    3. i    4. iv    5. iii



## 8 Division

### Exercise 8.1

- a. 44; c. 18; d. 106 and h. 2672 are divisible by 2.
- a. 216; c. 123 and d. 96432 are divisible by 3.
- a. 6512 are divisible by 4.
- a. 165; c. 3965; d. 2110 are divisible by 5
- No number is not divisible by 6.
- 6042 and 5246 both are divisible by 2. And their sum 11288 is also divisible by 2.
- April, June, September and November have 30 days.  
30 is divisible by 2 as well as 5.

### Exercise 8.2

- a.  $696 \div 6$   
 $\therefore$  Actual Quotient  
 = 116  
 $696 \div 6$  is rounded off to  $7000 \div 10 = 70$   
 So, Estimated quotient is 70.

$$\begin{array}{r} 116 \\ 6 \overline{)696} \\ \underline{-6} \phantom{0} \\ 9 \phantom{0} \\ \underline{-6} \phantom{0} \\ 36 \\ \underline{-36} \\ 0 \end{array}$$

- $1008 \div 6 = 168$  (actual quotient)  
 $1008 \div 6$  is rounded off to  $1010 \div 10 = 101$   
 So, Estimated quotient is 101.

$$\begin{array}{r} 168 \\ 8 \overline{)1008} \\ \underline{-6} \phantom{00} \\ 40 \phantom{0} \\ \underline{-36} \phantom{0} \\ 48 \\ \underline{-48} \\ 0 \end{array}$$

- $1408 \div 8 = 176$  (actual quotient)  
 $1408 \div 8$  is rounded off to  $1410 \div 10 = 141$   
 So, Estimated quotient is 141.

$$\begin{array}{r} 176 \\ 8 \overline{)1408} \\ \underline{-8} \phantom{00} \\ 60 \phantom{0} \\ \underline{-56} \phantom{0} \\ 48 \\ \underline{-48} \\ 0 \end{array}$$

- d.  $5850 \div 15 = 390$  (actual quotient)  
 $5850 \div 15$  is rounded off to  $5850 \div 20$   
 $= 292.5$   
 So, Estimated quotient is 299.5.

$$\begin{array}{r} 292.5 \\ 8 \overline{)5850} \\ \underline{-40} \\ 185 \\ \underline{-180} \\ 50 \\ \underline{-40} \\ 100 \\ \underline{-100} \\ 0 \end{array}$$

$$\begin{array}{r} 390 \\ 8 \overline{)5850} \\ \underline{-45} \\ 135 \\ \underline{-135} \\ 0 \\ \underline{-0} \\ 0 \end{array}$$

- e.  $1924 \div 26 = 74$  (actual quotient)  
 $1924 \div 26$  is rounded off to  $1920 \div 30 = 64$   
 So, estimated quotient is 64.

$$\begin{array}{r} 74 \\ 8 \overline{)1924} \\ \underline{-105} \\ 119 \\ \underline{-140} \\ 0 \end{array}$$

$$\begin{array}{r} 64 \\ 30 \overline{)1920} \\ \underline{-180} \\ 120 \\ \underline{-120} \\ 0 \end{array}$$

- f.  $11690 \div 35 = 334$  (actual quotient)  
 $11690 \div 35$  is rounded off to  $11690 \div 40$   
 $= 292.25$   
 So, estimated quotient is 292.25.

$$\begin{array}{r} 334 \\ 35 \overline{)11690} \\ \underline{-105} \\ 119 \\ \underline{-105} \\ 140 \\ \underline{-140} \\ 0 \end{array}$$

$$\begin{array}{r} 292.25 \\ 40 \overline{)11690} \\ \underline{-80} \\ 369 \\ \underline{-360} \\ 90 \\ \underline{-80} \\ 100 \\ \underline{-80} \\ 200 \\ \underline{-200} \\ 0 \end{array}$$

### MCQs

Tick (✓) the correct answer :

Ans. 1. i      2. iii      3. i      4. ii      5. iii



## 9 Unitary Method

### Exercise 9.1

1. What is the cost of 1 piece each?

- Ans. 1. a. 1 dozen = 12 pieces  
 Cost of 1 dozen = 12 pieces = ₹36  
 $\therefore$  Cost of 1 Piece =  $36 \div 12 = 3$   
 So, the cost of 1 piece is ₹3 each.
- b. Cost of 4 balls = ₹56  
 $\therefore$  Cost of 1 ball =  $56 \div 4 = ₹14$   
 So, the cost of 1 ball is ₹14 each.

- c. Cost of 4 umbrellas = ₹400  
 $\therefore$  Cost of 1 umbrella = ₹400  $\div$  4 = ₹100  
 So, the cost of 1 umbrella is ₹100 each.
- d. Cost of 3 pens = ₹66  
 Cost of 1 pen = ₹66  $\div$  3 = ₹22  
 So, the cost of 1 pen is ₹22 each.
2. a. Cost of 5 kg rice = ₹100  
 $\therefore$  Cost of 1 kg rice = ₹100  $\div$  5 = ₹20  
 So, the Cost of 1 kg rice is ₹20.
- b. Cost of 2 kg apples = ₹80  
 $\therefore$  Cost of 1 kg apples = 80  $\div$  2 = ₹40  
 So, the cost of 1 kg apples is 40.

3.

Things	Cost of 1 kg	Quantity	Total Cost
a. Mangoes	35	4 kg	₹35 $\times$ 4 = ₹140
b. Papaya	18	3 kg	₹18 $\times$ 3 = ₹54
c. Sugar	22	5 kg	₹22 $\times$ 5 = ₹110
d. Salt	8	6 kg	₹8 $\times$ 6 = ₹48

4. Total number of passengers = 1210  
 Number of passengers in each bus = 55  
 Number of buses to carry all passengers = 1210  $\div$  55 = 22  
 So, 22 buses will be needed to carry 1210 passengers.
5. The cost of 8 metre cloth = ₹176  
 $\therefore$  The 1 metre cloth = ₹176  $\div$  8 = ₹22  
 $\therefore$  The cost of 6 metre cloth = 22  $\times$  6 = ₹132
6. Total number of eggs = 175  
 Number of eggs in each tray = 7  
 Number of trays = 175  $\div$  7 = 25  
 There are eggs in 1 tray = 25  
 $\therefore$  There are eggs in 5 trays = 25  $\times$  5 = 125.  
 So, there are 125 eggs in 5 trays.
7. Total number of students = 51  
 Number of classes = 3  
 $\therefore$  Number of students in each class = 51  $\div$  3 = 17  
 There are students in 1 class = 17  
 $\therefore$  There are students in 5 classes = 17  $\times$  5 = 85 students  
 So, there are 85 students in 5 classes.
8. Number of shoes = 21  
 Number of rocks = 3  
 $\therefore$  Number of shoes in each rock = 21  $\div$  3 = 7  
 $\therefore$  Number of shoes in 7 rocks = 7  $\times$  7 = 49 shoes.  
 So, there are 49 shoes in 7 rocks.

### MCQs

Tick (✓) the correct option :

Ans. 1. ii    2. ii    3. i    4. i    5. iii. 49

# 10 Factors and Multiples

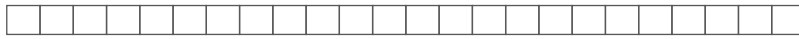
## Exercise 10.1

**1. Fill in the blanks :**

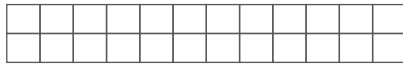
- Ans.** a.  $8 \times 4 = 32$  ; 8 and 4 are **factors** of 32.  
 b.  $3 \times 7 = 21$  ; **3** and **7** are factors 21.  
 c.  $9 \times 8 = 72$  ; **9** and **8** are the factors of **72**.

**2. There are follow in choice in different blocks of 24 squares.**

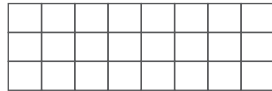
- (i)  $1 \times 24$  (ii)  $24 \times 1$  (iii)  $2 \times 12$  (iv)  $12 \times 2$  (v)  $3 \times 8$  (vi)  $8 \times 3$  (vii)  $4 \times 6$   
 (viii)  $6 \times 4$



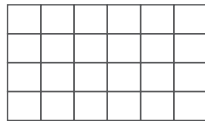
$1 \times 24 = 24$



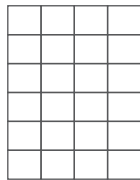
$2 \times 12 = 24$



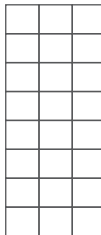
$3 \times 8 = 24$



$4 \times 6 = 24$



$6 \times 4 = 24$



$6 \times 4 = 24$



$12 \times 2 = 24$

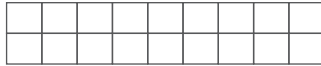


$24 \times 1 = 24$

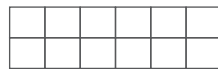
3. There are following possible rectangles which on draw using 18 squares.  
 (i)  $1 \times 18$  (ii)  $2 \times 9$  (iii)  $3 \times 6$  (iv)  $6 \times 3$  (v)  $9 \times 2$  (vi)  $9 \times 2$  (vii)  $18 \times 1$   
 (viii)  $18 \times 1$



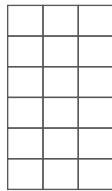
$$1 \times 18 = 18$$



$$2 \times 9 = 18$$



$$3 \times 6 = 18$$



$$6 \times 3 = 18$$



$$2 \times 9 = 18$$



$$18 \times 1 = 18$$

4. Use multiplication method to find the factors of :

a.  $1 \times 65 = 60$

$$5 \times 13 = 65$$

$$13 \times 5 = 65$$

So, 1, 5, 13 and 65 are the factors of 65.

b.  $1 \times 30 = 30$

$$6 \times 5 = 30$$

$$2 \times 15 = 30$$

$$10 \times 3 = 30$$

$$3 \times 10 = 30$$

$$15 \times 2 = 30$$

$$5 \times 6 = 30$$

$$30 \times 1 = 30$$

So, 1, 2, 3, 5, 6, 10, 15 and 30 are all the factors of 30.

c.  $1 \times 52 = 52$

$$13 \times 4 = 52$$

$$2 \times 26 = 52$$

$$26 \times 2 = 52$$

$$4 \times 13 = 52$$

$$52 \times 1 = 52$$

So, 1, 2, 4, 13, 26 and 52 are all the factors of 52.

d.  $1 \times 45 = 45$

$$15 \times 3 = 45$$

$$\begin{array}{ll}
 3 \times 15 = 45 & 45 \times 1 = 45 \\
 5 \times 9 = 45 & 45 \times 1 = 45 \\
 9 \times 5 = 45 &
 \end{array}$$

So, 1, 3, 5, 9, 15 and 45 are all the factors of 45.

**5. Use division method to find the factors of :**

a.  $80 \div 1 = 80$                        $80 \div 8 = 10$   
 $80 \div 2 = 40$                           $80 \div 10 = 8$   
 $80 \div 4 = 20$                           $80 \div 16 = 5$   
 $80 \div 5 = 16$                           $80 \div 20 = 2$   
     $80 \div 40 = 2$   
     $80 \div 80 = 1$

$\therefore$  1, 2, 4, 5, 8, 10, 16, 20, 40 and 80 are all the factors of 80.

b.  $96 \div 1 = 96$                           $96 \div 16 = 6$   
 $96 \div 2 = 48$                           $96 \div 24 = 4$   
 $96 \div 3 = 32$                           $96 \div 32 = 3$   
 $96 \div 4 = 24$                           $96 \div 48 = 2$   
 $96 \div 6 = 16$                           $96 \div 96 = 1$   
 $96 \div 8 = 12$   
 $96 \div 12 = 8$

So, 1, 2, 3, 4, 6, 8, 12, 16, 24, 32, 48 and 96 are all the factors of 96.

c.  $72 \div 1 = 72$                           $72 \div 9 = 8$   
 $72 \div 2 = 36$                           $72 \div 12 = 6$   
 $72 \div 3 = 24$                           $72 \div 18 = 4$   
 $72 \div 4 = 18$                           $72 \div 24 = 3$   
 $72 \div 6 = 12$                           $72 \div 36 = 2$   
 $72 \div 8 = 9$                           $72 \div 72 = 1$

$\therefore$  1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36 and 72 are all the factors of 72.

d.  $52 \div 1 = 52$                           $52 \div 13 = 4$   
 $52 \div 2 = 26$                           $52 \div 26 = 2$   
 $52 \div 4 = 13$                           $52 \div 52 = 1$

$\therefore$  1, 2, 4, 13, 26 and 52 all are the factors of 52.

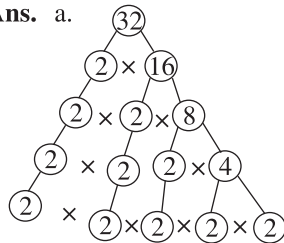
**6. In each of the following circle the factor of number from the choices given :**

- a. 24    ?     $\overline{(1, 2, 3, 4)}$ 5,  $\overline{(6)}$ 7,  $\overline{(8)}$ 9, 10, 15, 20, 25, 30, 40, 50  
 b. 36    ?     $\overline{(1, 2, 3, 4)}$ 5,  $\overline{(6)}$ 7, 8,  $\overline{(9)}$ 10, 15, 20, 25, 30, 40, 50  
 c. 40    ?     $\overline{(1, 2)}$ 3,  $\overline{(4, 5)}$ 6, 7,  $\overline{(8)}$ 9,  $\overline{(10)}$ 15,  $\overline{(20)}$ 25, 30,  $\overline{(40)}$ 50  
 d. 64    ?     $\overline{(1, 2)}$ 3,  $\overline{(4)}$ 5, 6, 7,  $\overline{(8)}$ 9, 10, 15, 20, 25, 30, 40, 50

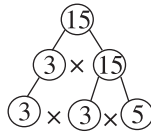
### Exercise 10.2

1. Make a factor tree for each of the following :

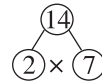
Ans. a.



b.



c.



2. Find common factors of the following :

a. Factors of  $12 \div 1, 2, 3, 4, 6, 12$

Factors of  $18 \div 1, 2, 3, 6, 9, 18$

Common factors of 12 and 18 = 1, 2, 3, 6

b. Factors of  $32 \div 1, 2, 4, 8, 16, 32$

Factor of 48  $\div 1, 2, 3, 4, 6, 8, 12, 16, 24, 48$

Common factors of 32 and 48 : 1, 2, 4, 8, 16.

c. Factors of 15 = 1, 3, 5, 15

Factors of 25 = 1, 5, 25

Common factors of 15 and 25 : 1, 5.

### Exercise 10.3

1.
  - a. 3, 5, 7, 11, 13, 17 and 19 are prime numbers less than 20.
  - b. 53, 59, 61, 67, 71, 73 and 79 are prime numbers between 50 and 80.
  - c. 1 is neither prime number nor composite number
  - d. 2 is smallest prime number.
  - e. 13 and 17 are prime number which differ by 4.
2. Which of the following pairs are co-prime numbers? :
  - b. 25, 18 e. 8, 15 f. 27, 35 g. 17, 80 and h. 24, 99 are co-prime numbers.

### Exercise 10.4

1. Write the first five multiples of the following numbers :
  - a. First five multiples of 18 ? 18, 36, 54, 72 and 90.
  - b. First five multiples of 14 ? 14, 28, 42, 56 and 70.
  - c. First five multiples of 8 ? 8, 16, 24, 32 and 40.
  - d. First five multiples of 19 ? 19, 38, 57, 76 and 95.
  - e. First five multiples of 16 ? 16, 32, 48, 64 and 80.
  - f. First five multiples of 12 ? 12, 24, 36, 48 and 60.
  - g. First five multiples of 32 ? 32, 64, 96, 128 and 160.
  - h. First five multiples of 25 ? 25, 50, 75, 100 and 125.

2. **Fill in the indicated multiples of the following :**

	3	4	7	9	18	12	16	25	100
7th	21	28	49	63	126	84	112	175	700
4th	12	16	28	36	72	48	64	100	400
3th	9	12	21	27	54	36	48	75	300
5th	15	20	35	45	90	60	80	125	500

3. **Fill in the blanks :**

- 1 is a factor of every number.
- 5, 10, 15, 20 are **multiples** of five.
- Multiples of any number are **infinite**.
- Each number is a multiple of **1** and **the number itself**.
- A multiple of a number can be divided by it, without leaving a **remainder**.

4. **Find first three common multiples of the following. Also circle the least common multiple :**

- Multiples of 3 ? 3, 6, 9, 12, 15, 18, 21, **(24)**, 27, 30, 33, 36, 36, 42, 45, 48, 51  
 Multiples of 5 ? 5, 10, 15, 20, 25, 30, 35, 40, 50  
 First 3 common multiples of 3 and 5 are **(15)** 30 and 45.....
- Multiples of 4 ? 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44  
 Multiples of 6 ? 6, 12, 18, 24, 30, 36, 42, 48.....  
 First 3 common multiples of 4 and 6 are **(12)** 24 and 36.
- Multiples of 8 ? 8, 16, 24, 32, 40, 48, 56, 64.....  
 Multiples of 16 ? 16, 32, 48, 64.....  
 First 3 common multiples of 8 and 16 are **(16)**, 32 and 48.
- Multiples of 3 ? 3, 6, 9, 12, 15, 18, 21, 24, 27, 30.....  
 Multiples of 6 ? 6, 12, 18, 24.....  
 First 3 common multiples of 3 and 6 are **(6)**, 12 and 18.....
- Multiples of 2 ? 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34.....  
 Multiples of 5 ? 5, 10, 15, 20, 25, 30, 35, 40.....  
 First 3 common multiples of 2 and 5 are 10, 20 and 30.
- Multiples of 5 ? 5, 10, 15, 20, 25, 30, 35, 40.....  
 Multiples of 10 ? 10, 20, 30, 40, 50  
 First 3 multiples of 5 and 10 are 10, 20 and 30.



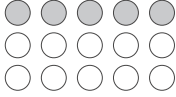
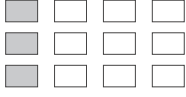
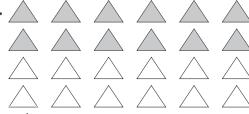
# 11 Fractions

## Exercise 11.1

1. Tell what fraction of each shape is shaded?

Ans. a.  $\frac{7}{8}$     b.  $\frac{4}{8}$     c.  $\frac{3}{6}$     (d)  $\frac{4}{8}$     (e)  $\frac{1}{3}$

2. Shade the given fraction in the collections given below :

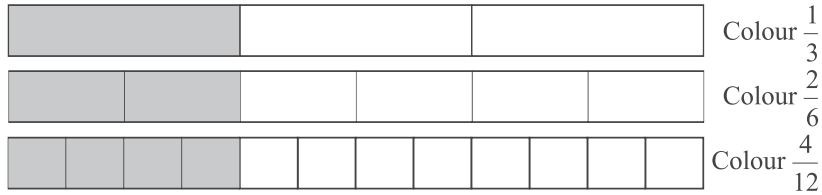
Ans. a.     b.     c. 

$\frac{1}{3}$                        $\frac{1}{4}$                        $\frac{1}{2}$

3. Find :


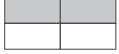
Ans. a.  $\frac{1}{2} = 18 = 9$                       b.  $\frac{1}{3}$  of 18 = 6                      c.  $\frac{1}{4}$  of 56 = 14  
 d.  $\frac{1}{4}$  of 24 = 6                      e.  $\frac{1}{2}$  of 12 = 6                      f.  $\frac{1}{3}$  of 96 = 32

**Try it out**

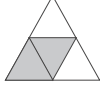



## Exercise 11.2



1. Write fractions for the shaded parts. Are these fractions equivalent or not? Write E for equivalent and N.E. for non-equivalent :

Ans. a.     

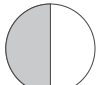

$\frac{1}{2}$                        $\frac{2}{4}$

b.     

$\frac{2}{4}$                        $\frac{1}{3}$

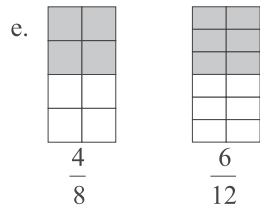
c.     

E                       $\frac{1}{3}$                        $\frac{1}{6}$

d.     

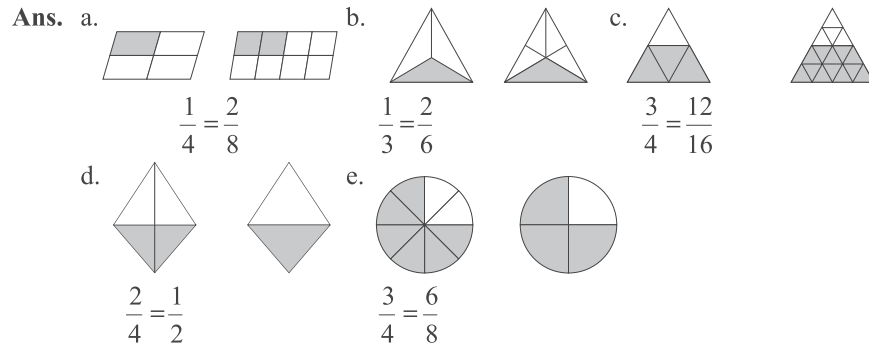
N.E.                       $\frac{1}{2}$                        $\frac{2}{4}$

N.E.                      E



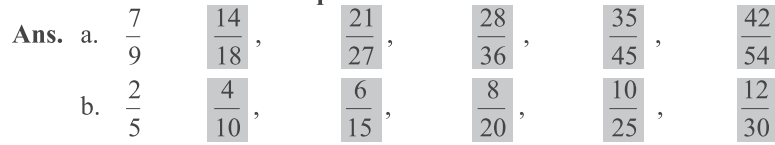
E

2. Colour the following to show equivalent fractions ;

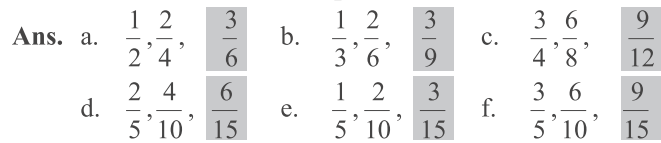


### Exercise 11.3

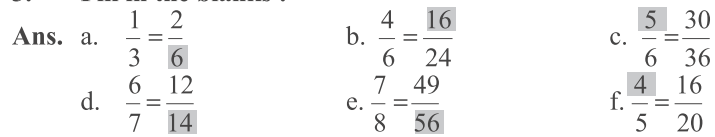
1. Write the first five equivalent fractions of :



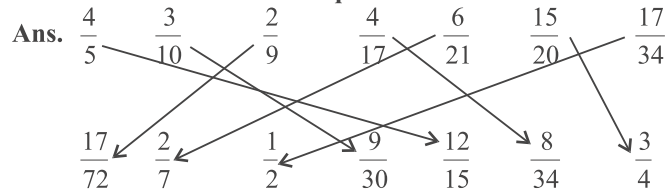
2. Write the next third equivalent fraction for each :



3. Fill in the blanks :



4. Draw lines to match equivalent fractions :



### Exercise 11.4

Tick (✓) the correct option :

- Ans. a. In  $\frac{7}{15}, \frac{5}{12}$  the cross products  $7 \times 12 \neq 5 \times 15$   
So,  $\frac{7}{15}$  and  $\frac{5}{12}$  are **not equivalent** fractions.
- b. In  $\frac{3}{4}, \frac{9}{12}$  the cross products  $3 \times 12 = 4 \times 9 = 36$   
So,  $\frac{3}{4}$  and  $\frac{9}{12}$  are **equivalent** fractions.
- c. In  $\frac{20}{36}, \frac{18}{30}$  the cross product  $20 \times 30 \neq 36 \times 18$   
So,  $\frac{20}{36}$  and  $\frac{18}{30}$  are **not equivalent** fractions.
- d. In  $\frac{8}{4}, \frac{7}{9}$  the cross products  $8 \times 9 \neq 4 \times 7$   
So,  $\frac{8}{4}, \frac{7}{9}$  are **not equivalent** fractions.
- e. In  $\frac{6}{12}$  and  $\frac{2}{3}$  the cross products  $6 \times 3 \neq 12 \times 2$   
So,  $\frac{6}{12}$  and  $\frac{2}{3}$  are **not equivalent** fractions.
- f. In  $\frac{4}{7}$  and  $\frac{20}{35}$  the cross products  $4 \times 35 = 7 \times 20 = 140$   
So,  $\frac{4}{7}$  and  $\frac{20}{35}$  are **equivalent** fractions.
- g. In  $\frac{15}{17}$  and  $\frac{90}{102}$  the cross products  $15 \times 102 = 17 \times 90 = 1530$   
So,  $\frac{15}{17}$  and  $\frac{90}{102}$  are **equivalent** fractions.
- h. In  $\frac{21}{30}$  and  $\frac{7}{15}$  the cross products  $21 \times 15 \neq 30 \times 7$   
So,  $\frac{21}{30}$  and  $\frac{7}{15}$  are **not equivalent** fraction.

### MCQ,s

1. (i)      2. (iii)      3. (ii)      4. (iii)      5. (ii)

### Exercise 11.5

1. Find if the given fractions are in their lowest terms :

Ans. a. Common factors of 21 and 64 are only 1.

So  $\frac{21}{64}$  is in its lowest term.

- b. Common factors of 9 and 72 is 1 and 9.  
So,  $\frac{9}{72}$  is not in its lowest term.
- c. Common factors of 34 and 48 are 1 and 2.  
So,  $\frac{34}{48}$  is not in its lowest term.
- d. Common factors of 3 and 10 are only 1.  
So,  $\frac{3}{10}$  is in its lowest term.
- e. Common factors of 4 and 50 is 1, 2, 5 and 10.  
So,  $\frac{40}{50}$  is not in its lowest term.
- f. Common factors of 11 and 35 are only 1.  
So,  $\frac{11}{35}$  is in its lowest term.
- g. Common factors of 48 and 144 is 1, 2, 3, 4, 6, 8, 12, 16, 24  
So,  $\frac{48}{144}$  is not in its lowest term.
- h. Common factors of 130 and 100 are 1, 2, 5, 10.  
So,  $\frac{30}{100}$  is not in its lowest term.

**2. Reduce each of the following fractions to its lowest term :**

- Ans. a.  $\frac{64}{100} = \frac{64 \div 4}{100 \div 4} = \frac{16}{25}$       b.  $\frac{81}{126} = \frac{81 \div 9}{126 \div 9} = \frac{9}{14}$
- c.  $\frac{77}{99} = \frac{77 \div 11}{99 \div 11} = \frac{7}{9}$       d.  $\frac{68}{170} = \frac{68 \div 34}{170 \div 34} = \frac{2}{5}$
- e.  $\frac{40}{72} = \frac{40 \div 8}{72 \div 8} = \frac{5}{9}$       f.  $\frac{49}{70} = \frac{49 \div 7}{70 \div 7} = \frac{7}{10}$
- g.  $\frac{143}{169} = \frac{143 \div 13}{169 \div 13} = \frac{11}{13}$       h.  $\frac{99}{171} = \frac{99 \div 9}{171 \div 9} = \frac{11}{19}$

**3. Fill in the blanks with fractions in the lowest terms :**

- Ans. a. 12 minutes of one hour is  $\frac{12}{60} = \frac{1}{5}$ .
- b. 10 days of a month of 30 days is  $\frac{10}{30} = \frac{1}{3}$ .
- c. 18 weeks of one year is  $\frac{18}{52} = \frac{9}{26}$  (1 year = 52 weeks)
- d. 20 paise of a rupee is  $\frac{20}{100} = \frac{1}{5}$ .
- e. 250 g of one kg is  $\frac{250}{1000} = \frac{1}{4}$ .

- f. 200 m of 1 km is  $\frac{200}{1000} = \frac{1}{5}$ .
- g. 48 cm of 1 m is  $\frac{48}{100} = \frac{12}{25}$ .
- h. 40 ml of 1 litre is  $\frac{40}{1000} = \frac{2}{50}$ .

### Exercise 11.6

1. Fill in the boxes :

- Ans. a.  $\frac{72}{45} = \frac{8}{5}$       b.  $\frac{7}{6} = \frac{56}{48}$       c.  $\frac{9}{7} = \frac{81}{63}$
- d.  $\frac{12}{45} = \frac{4}{15}$       e.  $\frac{36}{60} = \frac{3}{5}$       f.  $\frac{15}{20} = \frac{3}{4}$

### Exercise 11.7

1. Circle the like fractions :

- Ans.  $\frac{2}{5}, \frac{3}{5}, \frac{4}{5}, \frac{6}{5}, \frac{1}{5}$ ,  $\frac{1}{4}, \frac{2}{4}, \frac{3}{4}, \frac{1}{4}$ ,  $\frac{6}{10}, \frac{9}{8}$

2. Put a cross (X) on the unlike fractions :

- Ans.  $\frac{2}{4}, \frac{3}{7}, \frac{3}{9}, \frac{6}{12}$  ×  $\left(\frac{1}{8}, \frac{3}{8}, \frac{5}{8}, \frac{7}{8}, \frac{9}{8}\right)$

3. Circle the greater fraction in each of the following :

- Ans. a.  $\frac{16}{15}, \left(\frac{7}{15}\right)$       b.  $\frac{2}{10}, \left(\frac{5}{10}\right)$       c.  $\left(\frac{9}{18}\right), \frac{6}{18}$

4. Cross (X) out the smallest fraction in the following :

- Ans. a.  $\frac{6}{12}, \frac{3}{12}, \frac{2}{12}, \frac{5}{12}, \frac{11}{12}, \frac{9}{12}, \frac{1}{12}$  ×      b.  $\frac{3}{18}, \frac{4}{18}, \frac{2}{18}$  ×,  $\frac{16}{18}, \frac{5}{18}, \frac{6}{18}$

5. Arrange the following in the ascending order ;

- Ans. a. In ascending order →  $\frac{2}{16}, \frac{3}{16}, \frac{5}{16}, \frac{6}{16}, \frac{7}{16}, \frac{9}{16}, \frac{13}{16}, \frac{14}{16}$
- b. in ascending order →  $\frac{3}{25}, \frac{6}{25}, \frac{8}{25}, \frac{15}{25}, \frac{18}{25}, \frac{19}{25}, \frac{20}{25}, \frac{24}{25}$

6. Arrange the following in the descending order :

- Ans. a.  $\frac{6}{15}, \frac{8}{15}, \frac{9}{15}, \frac{3}{15}, \frac{2}{15}, \frac{4}{15}, \frac{5}{15}, \frac{1}{15} \Rightarrow \frac{9}{15}, \frac{8}{15}, \frac{6}{15}, \frac{5}{15}, \frac{4}{15}, \frac{3}{15}, \frac{2}{15}, \frac{1}{15}$
- b.  $\frac{1}{20}, \frac{9}{20}, \frac{4}{20}, \frac{5}{20}, \frac{6}{20}, \frac{3}{20}, \frac{19}{20} \Rightarrow \frac{19}{20}, \frac{9}{20}, \frac{6}{20}, \frac{5}{20}, \frac{4}{20}, \frac{3}{20}, \frac{1}{20}$

7. State the following statements true or false :

- Ans. a. True      b. False      c. False      d. True
- e. True      f. True

### Exercise 11.8

1. Which of the following are like fractions and which are unlike fractions?

- Ans.** a.  $\frac{1}{8}, \frac{2}{8}, \frac{4}{8}, \frac{5}{8}$  (Like Fractions)  
 b.  $\frac{1}{2}, \frac{3}{4}, \frac{5}{6}, \frac{5}{7}, \frac{5}{8}$  (Unlike Fractions)  
 c.  $\frac{1}{4}, \frac{3}{6}, \frac{4}{7}, \frac{3}{10}, \frac{9}{14}$  (Unlike Fractions)  
 d.  $\frac{3}{13}, \frac{5}{14}, \frac{6}{17}, \frac{10}{19}, \frac{11}{23}$  (Unlike Fractions)

**2. Which are proper fractions?**

- Ans.** a.  $\frac{8}{17}$  (Proper fraction)      b.  $\frac{14}{5}$  (Improper fraction)  
 c.  $\frac{3}{7}$  (Proper fraction)      d. (Proper fraction)  
 e.  $\frac{4}{9}$  (Proper fraction)

**3. Which are improper fractions?**

- Ans.** a.  $\frac{6}{13}$  (Proper fraction)      b.  $\frac{13}{7}$  (Improper fraction)  
 c.  $\frac{2}{5}$  (Proper fraction)      d.  $\frac{7}{10}$  (Proper fraction)  
 e.  $\frac{15}{7}$  (Improper fraction)

**4. Which of the following are unit fractions?**

- Ans.**  $\frac{1}{3}, \frac{1}{4}, \frac{1}{10}, \frac{1}{13}$  are unit fractions.

**5. Which are mixed fractions?**

- Ans.** a.  $\frac{9}{7}$  (Improper fraction)      b.  $2\frac{1}{2}$  (Mixed fraction)  
 c.  $3\frac{4}{9}$  (Mixed fraction)      d.  $\frac{16}{9}$  (Improper fraction)  
 e.  $5\frac{1}{2}$  (Mixed fraction)

**6. Convert the following mixed fractions into improper fractions :**

- Ans.** a.  $3\frac{1}{5} = \frac{16}{5}$       b.  $1\frac{7}{8} = \frac{15}{8}$       c.  $3\frac{3}{8} = \frac{27}{8}$       d.  $7\frac{1}{4} = \frac{29}{4}$

**7. Fill in the blanks :**

- Ans.** a. A **unit** fraction always has 1 as the denominator.  
 b. A mixed fraction is a combination of whole number and a **proper** fraction.  
 c. if the numerator of a fraction is less than its denominator, it is a **proper** fraction.

### Exercise 11.9

Find the sum of the following :

Ans. a.	$\frac{1}{6} + \frac{3}{6} = \frac{1+3}{6} = \frac{4}{6}$	b.	$\frac{1}{9} + \frac{5}{9} = \frac{1+5}{9} = \frac{6}{9}$
c.	$\frac{5}{8} + \frac{7}{8} = \frac{5+7}{8} = \frac{12}{8}$	d.	$\frac{3}{18} + \frac{6}{18} = \frac{9}{18}$
e.	$\frac{11}{19} + \frac{7}{19} = \frac{11+7}{19} = \frac{18}{19}$	f.	$\frac{5}{16} + \frac{3}{16} = \frac{5+3}{16} = \frac{8}{16}$
g.	$\frac{11}{15} + \frac{2}{15} = \frac{11+2}{15} = \frac{13}{15}$	h.	$\frac{6}{19} + \frac{3}{19} = \frac{6+3}{19} = \frac{9}{19}$
i.	$\frac{28}{45} + \frac{9}{45} = \frac{28+9}{45} = \frac{37}{45}$	j.	$\frac{11}{20} + \frac{5}{20} = \frac{11+5}{20} = \frac{16}{20}$
k.	$\frac{21}{55} + \frac{9}{55} = \frac{21+9}{55} = \frac{30}{55}$	l.	$\frac{5}{28} + \frac{20}{28} = \frac{5+20}{28} = \frac{25}{28}$
m.	$\frac{8}{27} + \frac{9}{27} = \frac{8+9}{27} = \frac{17}{27}$	n.	$\frac{5}{24} + \frac{18}{24} = \frac{5+18}{24} = \frac{23}{24}$
o.	$\frac{6}{15} + \frac{3}{15} + \frac{4}{15} = \frac{6+3+4}{15} = \frac{13}{15}$	p.	$\frac{1}{8} + \frac{3}{8} + \frac{2}{8} = \frac{1+3+2}{8} = \frac{6}{8}$

### Exercise 11.10

Subtract the following :

Ans. a.	$\frac{2}{7} - \frac{1}{7} = \frac{2-1}{7} = \frac{1}{7}$	b.	$\frac{8}{13} - \frac{5}{13} = \frac{8-5}{13} = \frac{3}{13}$
c.	$\frac{13}{17} - \frac{8}{17} = \frac{13-8}{17} = \frac{5}{17}$	d.	$\frac{6}{10} - \frac{1}{10} = \frac{6-1}{10} = \frac{5}{10}$
e.	$\frac{5}{18} - \frac{3}{18} = \frac{5-3}{18} = \frac{2}{18}$	f.	$\frac{10}{31} - \frac{6}{31} = \frac{10-6}{31} = \frac{4}{31}$
g.	$\frac{28}{48} - \frac{27}{48} = \frac{28-27}{48} = \frac{1}{48}$	h.	$\frac{15}{20} - \frac{8}{20} = \frac{15-8}{20} = \frac{7}{20}$
i.	$\frac{5}{15} - \frac{4}{15} = \frac{5-4}{15} = \frac{1}{15}$	j.	$\frac{12}{14} - \frac{8}{14} = \frac{4}{14}$
k.	$\frac{25}{30} - \frac{9}{30} = \frac{25-9}{30} = \frac{16}{30}$	l.	$\frac{11}{12} - \frac{7}{12} = \frac{11-7}{12} = \frac{4}{12}$
m.	$\frac{9}{9} - \frac{3}{9} = \frac{6}{9}$	n.	$\frac{8}{13} - \frac{5}{13} = \frac{3}{13}$
o.	$\frac{10}{21} - \frac{7}{21} = \frac{10-7}{21} = \frac{3}{21}$	p.	$\frac{9}{10} - \frac{5}{10} = \frac{9-5}{10} = \frac{4}{10}$

MCQs

Ans. 1. iii.  $\frac{4}{3}$  2. ii.  $\frac{7}{5}$  3. iv.  $\frac{1}{9}$  4. iv.  $\frac{1}{12}$  5. i.  $\frac{2}{5}, \frac{6}{5}$



## 12 The decimal Fraction

### Exercise 12.1

1. Write the decimals :

Ans. a.  $\frac{9}{10} = 0.9$       b.  $\frac{6}{10} = 0.6$       c.  $\frac{27}{10} = 2.7$       d.  $\frac{4}{10} = 0.4$   
e.  $\frac{3}{10} = 0.3$       f.  $\frac{15}{10} = 1.5$       g.  $\frac{7}{10} = 0.7$       h.  $\frac{58}{10} = 5.8$

2. Write in common fractions :

Ans. a.  $0.3 = \frac{3}{10}$       b.  $0.7 = \frac{7}{10}$       c.  $0.8 = \frac{8}{10}$       d.  $0.4 = \frac{4}{10}$   
e.  $0.6 = \frac{6}{10}$       f.  $1.0 = \frac{10}{10}$       g.  $0.1 = \frac{1}{10}$       h.  $0.2 = \frac{2}{10}$

3. Write in decimals form :

Ans. a.  $13\frac{3}{10} = \frac{133}{10} = 13.1$       b.  $17\frac{4}{10} = \frac{174}{10} = 17.4$   
c.  $26\frac{1}{10} = \frac{261}{10} = 26.1$       d.  $39\frac{4}{10} = \frac{394}{10} = 39.4$

### Exercise 12.2

1. Write as decimals :

Ans. a.  $\frac{19}{100} = 0.19$       b.  $\frac{42}{100} = 0.42$   
c.  $\frac{64}{100} = 0.64$       d.  $\frac{3}{100} = \frac{403}{100} = 4.03$

2. Write as fractions :

Ans. a.  $0.08 = \frac{8}{100}$       b.  $0.38 = \frac{38}{100}$   
c.  $3.38 = \frac{338}{100}$       d.  $6.07 = \frac{607}{100}$

3. Write in words :

Ans. a. 0.09 : Zero point zero nine      b. 0.15 : Zero point one five  
c. 1.18 : one point one eight      d. 5.43 : Five point four three

4. Write as decimals :

Ans. a. 0.07      b. 0.09  
c.  $\frac{2536}{100} = 25.35$       d.  $14\frac{5}{100} = 14.05$

### Exercise 12.3

1. Write in decimals :

Ans. a.  $\frac{7}{1000} = 0.007$       c.  $\frac{3}{1000} = 0.003$



$$\begin{array}{ll} \text{c. } \frac{25}{100} = \mathbf{0.025} & \text{d. } \frac{213}{1000} = \mathbf{0.213} \\ \text{e. } \frac{104}{1000} = \mathbf{0.104} & \text{f. } 2\frac{13}{1000} = \frac{2013}{1000} = \mathbf{2.013} \\ \text{g. } 7\frac{64}{100} = \frac{7064}{1000} = \mathbf{7.064} & \text{h. } 15\frac{123}{1000} = \frac{15123}{1000} = \mathbf{15.123} \end{array}$$

2. Write in common fractions :

$$\begin{array}{ll} \text{Ans. a. } 0.023 = \frac{23}{1000} & \text{b. } 61.851 = \frac{61851}{1000} \\ \text{c. } 93.540 = \frac{9354}{100} & \text{d. } 48.263 = \frac{48263}{1000} \end{array}$$

3. Write in words :

- Ans. a. 0.006 = Zero point zero zero six  
 b. 3.415 = Three point four one five  
 c. 5.291 = Five point two nine one

#### Exercise 12.4

1. Write the place and place value of :

$$\begin{array}{lll} \text{Ans. a. } 8 \text{ in } 5.813 & \text{place} = \mathbf{\text{Tenths}} & \text{place-value} = \frac{8}{10} \\ \text{b. } 4 \text{ in } 5.413 & \text{place} = \mathbf{\text{Tenths}} & \text{place-value} = \frac{4}{10} \\ \text{c. } 7 \text{ in } 6.710 & \text{place} = \mathbf{\text{Tenths}} & \text{place-value} = \frac{7}{10} \end{array}$$

2. Fill in the blanks :

- Ans. a. 0.13 = **1** tenths **3** hundredths.  
 b. 0.17 = **1** tenths **7** hundredths.  
 c. 0.117 = **1** tenths **1** hundredths **7** thousandths.

3. Fill in the boxes :

$$\begin{array}{ll} \text{Ans. a. } 8.02 = 8 + \frac{2}{100} & \text{b. } 9.01 = 9\frac{1}{100} \text{ } \square \\ \text{c. } 6.132 = 6 + \frac{1}{10} + \frac{3}{100} + \frac{2}{1000} & \text{d. } 7.321 = 7 + \frac{3}{10} + \frac{2}{100} + \frac{1}{1000} \end{array}$$

4. Write the standard numeral (short form) in decimals ;

- Ans. a. 328.354                      b. 200.247                      c. 13.205  
 d. 7.093                              e. 4.007

5. Write the place-value of 5 in each of the following :

$$\begin{array}{ll} \text{Ans. a. } 28.35 = \frac{5}{10} & \text{b. } 53.376 = \mathbf{50} \\ \text{c. } 43.578 = \frac{5}{10} & \text{d. } 103.805 = \frac{5}{1000} \end{array}$$

6. Write each of the following in the expanded form :

Ans. a.  $7.39 = 7 \times 1 + 3 \times \frac{1}{10} + 9 \times \frac{1}{100} = 7 + \frac{3}{10} + \frac{9}{100}$   
 b.  $5.625 = 5 \times 1 + 6 \times \frac{1}{10} + 2 \times \frac{100}{100} + 5 \times \frac{1}{1000} = 5 + \frac{6}{10} + \frac{2}{100} + \frac{5}{1000}$   
 c.  $76.108 = 7 \times 10 + 6 \times 1 + 1 \times \frac{1}{10} + 0 \times \frac{1}{100} + 8 \times \frac{1}{1000}$   
 d.  $359.228 = 3 \times 100 + 5 \times 10 + 9 \times 1 + 7 \times \frac{1}{10} + 2 \times \frac{1}{100} + \frac{1}{1000}$   
 $= 300 + 50 + 9 + \frac{7}{10} + \frac{2}{100} + \frac{8}{1000}$

7. Place-value chart

Ques. Part	Hundreds 100	Tens 10	Ones 1	Decimals points (.)	Tenths $\frac{1}{10}$	Hundredths $\frac{1}{100}$	Thousandths $\frac{1}{1000}$
a			8	.	0	5	6
b		6	2	.	2	1	4
c	2	0	5	.	0	0	8
d			0	.	8	8	3

### Exercise 12.5

State 'true' or 'false' :

- Ans. a. True      b. False      c. True      d. False  
 e. True.      f. False      g. False      h. True  
 i. False      j. False

### Exercise 12.6

1. Write 'correct' or 'incorrect' is each of the following ;

Ans. a.  $\frac{4}{10} = 0.04$  Incorrect      b.  $\frac{30}{100} = 0.30$  Correct

2. Compare and put '<,' or '>' for each :

Ans. a.  $0.202 < 0.220$       b.  $6.12 < 6.21$   
 c.  $0.8 < 0.81$       d.  $0.324 < 0.384$

### MCQs

- Ans. 1. iii. 0.731      2. i. 8.89  
 3. iv. 7.11      4. iv. 7.004  
 5. iii. 82.406



## 13 The Metric System

### Exercise 13.1

- Millimetre is the lowest unit and kilometer is the highest unit of length in general use.
- Milligram is the lowest unit and kilogram is the highest unit of weight in general use.
- Millilitre is the lowest unit and kilolitre is the highest unit of the capacity in general use.
- Fill in the blanks :**

a. 1 km = <b>1000</b> m	b. 1 m = <b>1000</b> mm
c. 1 g = <b>1000</b> mg	d. 1 m = <b>100</b> cm
e. 1 l = <b>10</b> dl	f. 1 kl = <b>1000</b> l
g. 1 l = <b>1000</b> ml	h. 1 kg = <b>1000</b> g
- 1000 grams make one kilogram.
- 100 decagrams make one kilogram.
- State 'true' or 'False' in each :

a. True	b. False	c. False	d. True
e. True	f. False	g. True	h. False

### Exercise 13.2

- Fill in the blanks :**

a. 4475 m = <b>4</b> km <b>475</b> m
b. 4 km 675 m = <b>4675</b> m
c. 9720 l = <b>9</b> kl <b>720</b> l
d. 3005 g = <b>3</b> kg <b>5</b> g
e. 5525 mg = <b>5</b> g <b>5</b> dg <b>2</b> cg <b>5</b> mg
f. 6080 mm = <b>6</b> m <b>0</b> dm <b>8</b> cm <b>0</b> mm
g. 4708 ml = <b>4</b> l <b>7</b> dl <b>0</b> cl <b>8</b> ml
h. 625 mm = <b>62</b> cm <b>5</b> mm
- State 'true' or 'false' :**

a. True	b. False	c. True	d. True
e. True	f. False	g. True	h. True
- Express in terms of kg and g :**

a. 8459 g = (8000 + 459)g = 8000 g + 459 g = 8 kg 455 g
b. 14978 g = (14000 + 978)g = 14000 g + 978 g = 14 kg 978 g
c. 24689 g = (24000 + 689) g = 24000 g + 689 g = 24 kg 689 g
- Express in terms of km and m :**

1000 m = 1 km
a. 54000 m = 54 km
b. 65767 m = 65000 m + 767 m = 65 km 767 m
c. 7334 m = 7000 m + 334 m = 7 km 334 m

5. **Express in terms of m, dm, cm and mm :**

- 1000 mm = 1m, 100 mm = 1 dm, 10 mm = 1 cm  
 = 4 m + 8 cm + 5 mm = 8 m 8 cm 5 mm  
 b. 18.384 mm = (18000 + 300 + 80 + 4) mm  
 = 18000 mm + 300 mm + 80 mm + 4 mm  
 = 18 m + 3 dm + 8 cm 4 mm  
 = 18 m 3 dm 8 cm 4 mm.  
 c. 21535 mm = (21000 + 500 + 30 + 5) mm  
 = 21000 mm + 500 mm + 30 mm + 5 mm  
 = 21 m + 5 dm + 3 cm + 5 mm  
 = 21 m 5 dm 3 cm 5 mm

6. **Express in terms of kl and l :**

- 1000 l = 1 kl  
 a. 400 l = 4 kl  
 b. 7859 l = (7000 + 859) l = 7000 l + 859 l = 7 kl 859 l  
 c. 13207 l = (13000 + 207) l = 13000 l + 207 l = 13 kl 207 l

7. **Express in terms of g and cg :**

- 100 cg = 1 g  
 a. 535 cg = (500 + 35) cg = 500 cg + 35 cg = 5g 35 cg  
 b. 564 cg = (500 + 64) cg = 500 cg + 64 cg = 5 g 64 cg  
 c. 900 cg = 9g

**Exercise 13.3**

1. **Add :**

- a. 

m	cm
45	546
+ 68	219
113	765

  
113 kg 765 g
- b. 

m	cm
92	462
+ 93	761
166	223

  
166 kl 223 g
- c. 

m	cm
44	56
+ 35	68
80	24

  
80 m 24 cm

2. **Find the sum of :**

- a. 25 km 900 + 35 km 475 m  
 = 61 km 375 m.
- | km   | m   |
|------|-----|
| 25   | 900 |
| + 35 | 475 |
| 61   | 375 |
- b. 7740 ml + 1750 l 365 ml  
 = 71740 ml + 17 l 365 ml  
 = 25 l 105 ml
- | l    | ml   |
|------|------|
| 7    | 740  |
| + 17 | 365  |
| 25   | 1105 |
- c. 15 l 500 ml + 750 ml + 2 l 250 ml  
 = 18 l 500 ml
- | l   | ml  |
|-----|-----|
| 15  | 500 |
| 0   | 750 |
| + 2 | 250 |
| 18  | 500 |

3. Distance travelled by Ajay,

$$\begin{aligned} \text{First day} &= 64 \text{ km } 175 \text{ m} \\ \text{Second day} &= 88 \text{ km } 126 \text{ m} \\ \text{Third day} &= +20 \text{ km } 54 \text{ m} \\ &= 172 \text{ km } 355 \text{ m} \end{aligned}$$

km	m
①	①
25	900
+ 35	475
61	375

So, Ajay travelled 172 km 355 m in all 3 days.

4. Weight of a Almirah = 32 kg 444 g  
? Weight of 2 Almirahs = 32 kg 444 g × 2

$$\begin{aligned} &= 64 \text{ kg } 888 \text{ g} \\ \text{Weight of a sock} &= 36 \text{ kg } 168 \text{ g} \\ ? \text{ Total weight} &= 64 \text{ kg } 888 \text{ g} + 36 \text{ kg } 168 \text{ g} \\ &= 101 \text{ kg } 56 \text{ g} \end{aligned}$$

km	m
①①	①①
64	888
+ 36	168
101	056

So, 101 kg 56 g weight loaded in the truck.

5. Weight of First sugar bag = 98 kg 750 g  
Weight of second sugar bag = 97 kg 500 g  
Weight of the third sugar bag = 99 kg 150 g  
total weight of 3 sugar bags = 295 kg 400 g  
So, total sugar contained 295 kg 400 g int three bags.

km	m
①	①①
98	750
97	500
+ 99	150
295	400

#### Exercise 13.4

1. Subtraction the following :

a.  $18 \text{ l } 500 \text{ ml } - 3 \text{ l } 250 \text{ ml}$   
=  $15 \text{ l } 250 \text{ ml}$

l	ml
18	500
- 3	250
15	250

b.  $7 \text{ km } 750 \text{ m } - 6 \text{ km } 500 \text{ m}$   
=  $1 \text{ km } 250 \text{ m}$

km	m
7	750
- 6	500
1	250

c.  $41 \text{ cm } 8 \text{ mm } - 29 \text{ cm } 3 \text{ mm}$   
=  $12 \text{ cm } 5 \text{ mm}$

cm	mm
41	8
- 29	3
12	5

2. Find the difference between the following :

a. Difference between 8 cm 1mm and 5 cm 3 mm  
Difference = 2 cm 8 mm

cm	mm
41	8
- 29	3
12	5

b. Difference between 7 kg 300 g and 3 kg 600 g  
Difference = 3 kg 600 g

kg	g
7	300
- 3	600
3	600

c. Difference between 7 l 100 ml and 5 l 500 ml  
Difference = 1 l 600 ml

kg	g
7	300
– 3	600
3	700

d. Difference between 13 kg and 7 kg 500 g  
Difference = 5 kg 500 g

l	ml
13	000
– 7	500
5	500

3. Total distance of race = 100 m  
Renu covered = 79 m 50 cm  
? Distance was left uncovered = 20 m 50 cm  
So, 20 m 50 cm distance was left uncovered.

m	cm
100	00
– 79	50
20	50

4. The length of the candle is now = 32 cm  
The length of the candle is now = 21 cm 5 mm  
The length of the candle has been burnt out = 32 cm – 21 cm 5 mm  
= 10 cm 5 mm

m	cm
100	00
– 79	50
20	50

5. Petrol was purchased = 9 kl 500 l  
Petrol was sold = – 8 kl 700 l  
Petrol was left = 0 kl 800 l  
So, 800 l of petrol was left with owner.

kl	l
9	500
– 8	700
0	800

6. The wheat was in the shop = 1320 kg 500 g  
The wheat was sold = 780 kg 700 g  
The wheat was left in the shop = 539 kg 800 g  
So, 539 kg 800 g wheat was left in the shop.

kl	l
1320	500
– 780	700
539	800

### MCQs

Tick (✓) the correct answer :

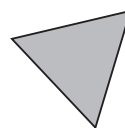
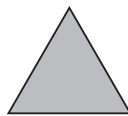
Ans. 1. iii    2. iii    3. ii    4. i    5. ii    6. iv



## 14 Geometrical Concepts

### Exercise 13.1

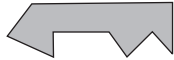
1. Colour the polygons that are triangles :



2. Colour the polygons blue that are quadrilateral :



3. Nanogon



4. Fill in the blanks :

1. The simple closed curve made up of only line segments is called a **polyon**.
2. A polygon made up of only three line segments is called a **Triangle**.
3. **Square** and **Rectangle** are examples of quadrilateral.
4. A **Heptagon** is a polygon with seven sides.

#### MCQs

Tick (✓) the correct answer :

Ans. 1. iv    2. iv    3. iii    4. iv

## 15 Perimeter of Rectilinear Figure

### Exercise 15.1

1. Find the perimeter of each of the following figures ;
  - a. Perimeter of Rectangle =  $2(\text{length} + \text{breadth})$   
 Length = 7 cm and breadth = 5 cm  
 ? Perimeter =  $2(7 + 5) = 2 \times 12 = \mathbf{24 \text{ cm}}$
  - b. Sides of quadrilateral = 4 cm, 8 cm, 4 cm and 9 cm  
 ? Perimeter inter of quadrilateral =  $(4 + 8 + 4 + 9) \text{ cm} = \mathbf{25 \text{ cm}}$
  - c. Sides of triangle = 2 cm, 4 cm and 5 cm  
 ? Perimeter of triangle =  $(2 + 4 + 5) \text{ cm} = \mathbf{11 \text{ cm}}$
  - d. Each side of square = 8 cm  
 ? Perimeter of square =  $4 \times \text{side} = 4 \times 8 = \mathbf{32 \text{ cm}}$
2. Find the perimeter of the tri angles whose sides are following :
  - a. Sides and the triangle = 6 cm, 7 cm and 8 cm  
 ? Perimeter of triangle =  $(6 + 7 + 8) \text{ cm} = \mathbf{21 \text{ cm}}$
  - b. Sides of the triangle = 9 cm, 4 cm and 7 cm  
 Perimeter of the triangle =  $(9 + 4 + 7) \text{ cm} = \mathbf{20 \text{ cm}}$
3. Find the perimeter of the rectangles having :
  - a. Side of quadrilateral = 4 cm, 6 cm, 3 cm and 2 cm  
 ? Perimeter of quadrilateral =  $(4 + 6 + 3 + 2) \text{ cm} = \mathbf{15 \text{ cm}}$
  - b. Sides of the quadrilateral = 7 cm, 6 cm, 4 cm and 5 cm  
 Perimeter of the quadrilateral =  $(7 + 6 + 4 + 5) \text{ cm} = \mathbf{22 \text{ cm}}$

- 4. Find the perimeter of the rectangles having :**
- a. Length of the rectangle = 10 cm and breadth = 6 cm  
 ? Perimeter of the rectangle =  $2(10 + 6)$  cm =  $2 \times 16$  cm = **32 cm**
- b. Length of the rectangle = 8 cm and breadth = **5 cm**  
 ? Perimeter of the rectangle =  $2(8 + 5)$  cm =  $2 \times 13$  cm = **26 cm**
- 5. Find the perimeter of the squares having sides :**
- a. Each side of the square = 2 cm  
 ? Perimeter of the square =  $4 \times \text{side} = 4 \times 2 =$  **8 cm**
- b. Each side of the square = 4 cm  
 ? Perimeter of the square =  $4 \times \text{side} = 4 \times 4 =$  **16 cm**
- c. Each side of the rectangle = 3 cm  
 ? Perimeter of the rectangle =  $4 \times \text{side} = 4 \times 3 =$  **12 cm**
- d. Each side of the rectangle = 7 cm  
 ? Perimeter of the rectangle =  $4 \times \text{side} = 4 \times 7 =$  **28 cm**
- 6.** Perimeter of the rectangle = 26 cm  
 Length of the rectangle = 9 cm  
 ?  $2 \times (\text{length} + \text{breadth}) = \text{perimeter}$   
 $2 \times (9 + \text{breadth}) = 26$   
 $9 + \text{breadth} = \frac{26}{2} = 13$   
 ? breadth =  $13 - 9 = 4$  cm
- 7.** Side of the square = 6 cm  
 ? Perimeter of the square =  $4 \times \text{side} = 4 \times 6$  cm = 24 cm  
 So, perimeter of the square is **24 cm**
- 8.** Perimeter of the square =  $4 \times \text{side} = 36$  cm  
 ? Side =  $\frac{36}{4} = 9$  cm  
 So, the length of a side of the square is **9 cm**.
- 9.** The sides of the rectangle are 7 cm and 5 cm.  
 Perimeter of rectangle =  $2 \times (7 + 5)$  cm =  $2 \times 12$  cm = **24 cm**  
 So, the perimeter of the rectangle is **24 cm**.
- 10.** Length of rectangle = 8 cm  
 Perimeter of rectangle =  $2(\text{Length} + \text{breadth}) = 24$  cm  
 ?  $2 \times (8 + \text{breadth}) = 24$   
 $8 + \text{breadth} = \frac{24}{2} = 12$   
 ? breadth =  $12 - 8 = 4$  cm  
 So, the breadth of rectangle is **4 cm**.
- 11.** Sides of triangle = 6 cm, 4 cm and 6 cm  
 ? Perimeter of the triangle =  $(6 + 4 + 6)$  cm = 16 cm  
 So, the perimeter of the triangle is **16 cm**.



12. Perimeter of the square =  $4 \times \text{side} = 48 \text{ cm}$   
 ? Side =  $\frac{48}{4} = 12 \text{ cm}$   
 So, the length of the each side of the square is 12 cm.

#### Exercise 15.2

- Length of rectangular ground = 100 m  
 Breadth of ground = 30 m  
 ? Perimeter of the ground =  $2(\text{length} + \text{breadth})$   
 $= 2 \times (100 \text{ m} + 30 \text{ m}) = 2 \times 130 \text{ m} = 260 \text{ m}$   
 Thus, the wire needed for the fencing = 260 m
- Length of the frame = 40 cm  
 Breadth of the frame = 25 cm  
 ? Perimeter of the frame =  $2(\text{Length} + \text{breadth})$   
 $= 2 \times (40 \text{ cm} + 25 \text{ cm}) = 2 \times 65 \text{ cm} = 130 \text{ cm}$   
 So, for framing Ramesh needs 130 cm wooden stick.
- Each side of triangular park = 30 m  
 ? Perimeter of the park =  $3 \times 30 \text{ m} = 120 \text{ m}$   
 The distance covered in on around the park = 120 m  
 The distance covered in one step = 60 cm = 0.60 m  
 ? Number of steps =  $120/0.60 = 1200/6 = 200 \text{ steps}$   
 Thus, the girl takes 200 steps to walk around the park.
- Length of the carpet = 5 m 20 cm = 5.20 m  
 Breadth of the carpet = 31 m 20 cm = 3.20 m  
 ? Perimeter of the carpet =  $2(\text{Length} + \text{breadth}) = 2 \times (5.20 + 3.20)$   
 $= 2 \times 8.40 = 16.80 \text{ m}$   
 Used length of the tape perimeter = 16.80 m  
 Cost of the tape per metre length = ₹ 2  
 ? Cost of the total tape = ₹  $16.80 \times 2 = ₹ 33.60$   
 So, 16.80 m of tape is used and ₹ 33.60 is the cost of the tape.
- Length of the board = 175 cm  
 Breadth of the board = 85 cm  
 ? Perimeter of the board =  $2(\text{Length} + \text{breadth}) = 2(175 + 85)$   
 $= 2 \times 260 = 520 \text{ cm} = 5 \text{ m } 20 \text{ cm}$   
 So, m 20 cm of plastic tape is required.
- Side of the square park = 3.0 m  
 ? Perimeter of the park =  $4 \times \text{side} = 4 \times 30 \text{ m} = 120 \text{ m}$   
 ? Roman walks in 1 round = 120 m  
 ? Roman walks in 4 round =  $4 \times 120 = 480 = 480 \text{ m}$

#### MCQs

Tick (✓) the correct answer :

Ans. 1. ii    2. iv    3. iii    4. ii    5. i



## 16 Area

### Exercise 16.1

1. **By counting the number of square :**
  - a. Area of Figure a = 69 square = 69 sq. cm
  - b. Area of Figure b = 48 square = 48 sq. cm
  - c. Area of Figure c = 32 square = 32 sq. cm
  - d. Area of Figure d = 62 square = 62 sq. cm
  - e. Area of Figure e =  $63\frac{1}{2}$  square = 63.5 sq. cm
  - f. Area of Figure f = 63 square = 63 sq. cm

### Exercise 16.2

1. **Complete the following table in respect of a rectangle :**

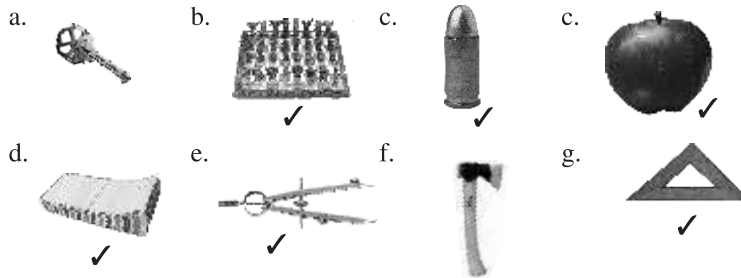
	Length	Breadth	Area
a.	16 cm	2 cm	32 cm <sup>2</sup>
b.	10 cm	8 cm	80 cm <sup>2</sup>
c.	12 cm	32 cm	36 cm <sup>2</sup>
d.	15 cm	2.5 cm	37.5 cm <sup>2</sup>
e.	6.4 cm	5 cm	32 cm <sup>2</sup>
f.	9 cm	4 cm	36 cm <sup>2</sup>

2. **Length of the rectangle = 28 cm**  
 Breadth of the rectangle = 120 mm = 12 cm  
 ? Area of the rectangle = Length  $\times$  breadth = 28 cm  $\times$  12 cm  
 So, area of the rectangle is 336 m<sup>2</sup>
3. Side of square = 70 cm  
 ? Area of the square = side  $\times$  side = 70 cm  $\times$  70 cm  
 = 4900 cm<sup>2</sup>  
 So, Area of the square is 4900 cm<sup>2</sup>.
4. Length of rectangular region = 20 cm  
 Area of region = 560 cm<sup>2</sup>  
 ? The breadth of region =  $\frac{\text{Area}}{\text{Length}} = \frac{560}{20} = 28$  cm  
 So, the breadth of rectangular region is 28 cm.
5. The length of rectangular field = 45 m  
 ? The breadth less than length = 45 - 15 = 30 m  
 ? Area of field = Length  $\times$  Breadth = 45 m  $\times$  30 m = 1350 m<sup>2</sup>  
 Cost of the turfing per m<sup>2</sup> = ₹ 1  
 ? Total cost of turfing = ₹ 1  $\times$  1350 = ₹ 1350  
 So, the cost of turfing the field is ₹ 1350.

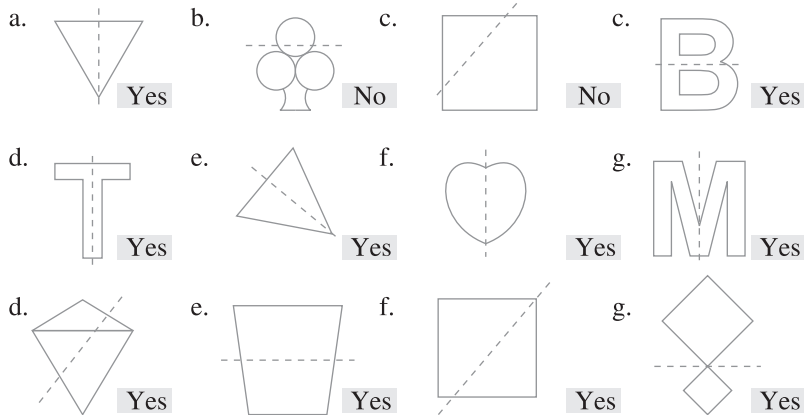
# 17 Symmetry

## Exercise 17.1

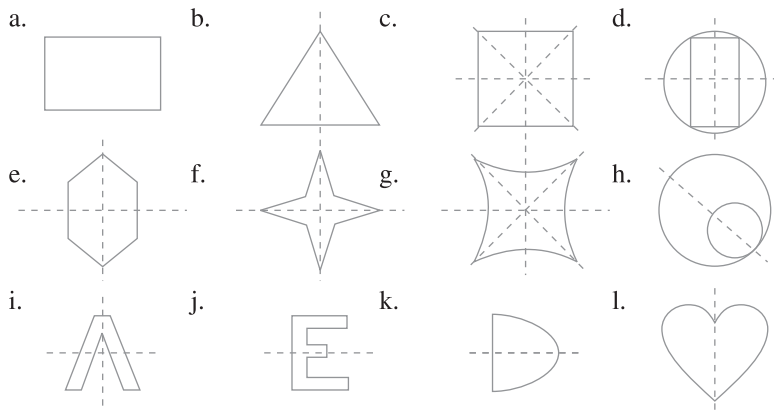
1. Which of the following objects are symmetric? Circle them :



2. Is the dotted line a line of symmetry? Answer in 'yes' for 'no' :



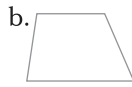
3. Copy the following figures in each case in your notebooks. Draw lines of symmetry.



4. Write the number of lines of symmetry for each figure :



Yes



No



No



Yes



Yes



Yes



Yes



Yes

b

### MCQs

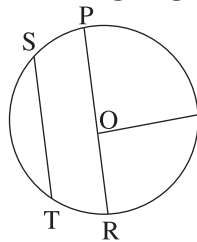
Tick (✓) the correct answer :

Ans. 1. ii    2. i    3. ii    4. iii    5. i.

## 18 Circle

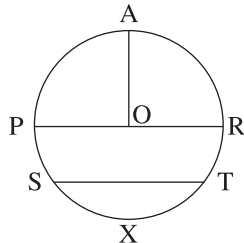
### Exercise 18.1

1. In the figure given below name the parts of the circle :



Q = Centre  
 $\widehat{PAR}$  = Arc  
 PQR = Diameter  
 ST = Chord  
 OA = Radius  
 PO = Radius  
 PR = Semicircle

2. Draw a circle in your notebook and mark on it the parts of a circle :



Q = Centre  
 PR = Diameter  
 OA = OP = OR = Radius  
 ST = Chord  
 $\widehat{SXT}$  = Arc

3. Draw a circle in your notebook and mark on it the parts of a circle :

a. Diameter = 20 cm

$$\odot \text{ Radius} = \frac{\text{Diameter}}{2} = \frac{20}{2} = 10 \text{ cm}$$

b. Diameter = 30.5 cm

$$\odot \text{ Radius} = \frac{\text{Diameter}}{2} = \frac{30.5}{2} = 15.25 \text{ cm}$$

c. Diameter = 20.70 cm

$$\odot \text{ Radius} = \frac{\text{Diameter}}{2} = \frac{20.70}{2} = 10.35 \text{ cm}$$

d. Diameter = 40 cm

$$\odot \text{ Radius} = \frac{\text{Diameter}}{2} = \frac{40}{2} = 20 \text{ cm}$$

**4. Find the diameter of the circle whose radius is :**

$$\text{Circumference} = \pi \times \text{Diameter} = \frac{22}{7} \times \text{Diameter}$$

a. Radius = 4 cm

$$\odot \text{ Diameter} = 2 \times \text{Radius} = 2 \times 4 = \mathbf{8 \text{ cm}}$$

b. Radius = 6.7 cm

$$\odot \text{ Diameter} = 2 \times \text{Radius} = 2 \times 6.7 \text{ cm} = \mathbf{13.4 \text{ cm}}$$

c. Radius = 3.9 cm

$$\odot \text{ Diameter} = 2 \times \text{Radius} = 2 \times 3.9 \text{ cm} = \mathbf{7.8 \text{ cm}}$$

d. Radius = 8.8 cm

$$\odot \text{ Diameter} = 2 \times \text{Radius} = 2 \times 8.8 \text{ cm} = \mathbf{17.6 \text{ cm}}$$

**5. Find the circumference of the circle whose diameter is :**

a. Diameter = 42 cm

$$\odot \text{ circumference} = \frac{22}{7} \times 42 = \mathbf{132 \text{ cm}}$$

So, the circumference is 132 cm with diameter 42 cm.

b. Diameter = 21 cm

$$\odot \text{ circumference} = \frac{22}{7} \times 21 = \mathbf{66 \text{ cm}}$$

So, the circumference is 66 cm with diameter 21 cm.

c. Diameter = 14 cm

$$\odot \text{ circumference} = \frac{22}{7} \times 14 = \mathbf{44 \text{ cm}}$$

d. Diameter = 14 cm

$$\odot \text{ circumference} = \frac{22}{7} \times 14 = \mathbf{44 \text{ cm}}$$

**6. Find the diameter of the circle whose circumference is :**

$$\text{Diameter} = \frac{\text{Circumference}}{\pi} = \frac{\text{Circumference}}{22/7} = \frac{7 \times \text{Circumference}}{22}$$

a. Circumference = 22 cm

$$\odot \text{ Diameter} = \frac{7 \times 22}{22} = \mathbf{7 \text{ cm}}$$

b. Circumference = 44 cm

$$\odot \text{ Diameter} = \frac{7 \times 44}{22} = \mathbf{14 \text{ cm}}$$

c. Circumference = 66 cm

$$\odot \text{ Diameter} = \frac{7 \times 66}{22} = \mathbf{21 \text{ cm}}$$

d. Circumference = 88 cm

$$\odot \text{ Diameter} = \frac{7 \times 88}{22} = \mathbf{28 \text{ cm}}$$

**7. Which is the longest chord of a circle?**

**Ans.** Diameter

8. **Fill in the blanks :**
- The length of the circle is called its **circumference**.
  - Radius of a circle =  $\frac{1}{2}$  × diameter of a circle.
  - Diameter is the **longest** chord of a circle.
  - The centre of a circle lies in its **diameter**.
  - All diameters of a circle are of equal **length**.
  - the two parts into which a diameter divides a circle are called **halfcircle**.
9. **Write true or false :**
- True
  - True
  - False
  - False
  - False

### MCQs

Tick (✓) the correct answer :

Ans. 1. ii    2. ii    3. iii    4. iii    5. iv



## 19 Time

### Exercise 19.1

1. **Write the time shown by each clock in two ways :**

a.



5 : 15

Quarter past five

b.



6 : 10

Ten minutes past six

c.



10 : 45

Quarter eleven

2. **Write the time in figures :**

a. 4 : 30

b. 4 : 50

c. 2 : 05

d. 9 : 45

e. 3 : 15

f. 3 : 55

3. **Fill in the blanks :**

- The long hand of the clock is the **minute** hand.
- The short hand of the clock is the **hour** hand.
- The hour-hand takes **7** hours to move from 2 to 9.
- The minute-hand takes **10** minutes to move from 3 to 5.
- The hour-hand takes **4** hours to move from 2 to 6.
- The minute-hand takes **20** minutes to move from 1 to 5.

4. **60 minutes**

5. **12 hours**

### MCQs

Tick (✓) the correct answer :

Ans. 1. iii    2. iii    3. ii    4. ii    5. ii

### Exercise 19.2

1. **Write the time in am or pm :**

a. 5 : 30 pm

b. 11 : 05

c. 3 : 30 am

d. 7 : 15 pm

**2. Write the time for the following questions :**

Do it yourself.

**3. What time was it before 3 hours?**

- a. 5 : 40 pm    b. 2 : 40 am    c. 9 : 00 pm    d. 4 : 30 pm  
e. 5 : 50 pm

**4. What time will it be after 5 hours?**

- a. 9 : 35 pm    b. 4 : 00 pm    c. 6 : 45 am    d. 11 : 50 am

**Exercise 19.3**

**1. Change these times according to 24-hour clock :**

- a. 1830 hours    b. 0115 hours    c. 1800 hours    d. 1138 hours

**2. Change these times according to 12 hour clock :**

- a. 12 : 10 pm    b. 2 : 45 pm    c. 9 : 45 pm    d. 6 : 00 am  
e. 6 : 05 pm    f. 7 : 10 am

**3. 7:50 pm**

**4. Answer, using both 12-hour clock and 24-hour clock times :**

Do it yourself.

**5. Convert the following as directed :**

- a. Arrival time of an aeroplane = 14 : 30 hours  
It reaches at = 8 : 30 pm = 20 : 30 hours  
More time was taken = 2:30 – 14:30 = 6:00 hours  
So, an aeroplane takes 6 hours more than scheduled time.

**Exercise 19.4**

**1. Convert the following as directed :**

1 week = 7 days

1 day = 24 hours , 1 hour = 60 minutes, 1 minute = 60 seconds

- a. 1 week =  $7 \times 24 = 168$  hours  
2 weeks 3 days 10 hours =  $(2 \times 168 + 3 \times 24 + 10)$  hours  
=  $(336 + 72 + 10)$  hours = 418 hours
- b. 3 week 5 days 11 hours =  $(3 \times 7 \times 24 + 5 \times 24 + 11)$  hours  
=  $(504 + 120 + 11)$  hours  
= 635 hours
- c. 2 days 5 hours 6 hours =  $(4 \times 7 \times 24 + 6 \times 24 + 4)$  hours  
=  $(672 + 144 + 4)$  hours  
= 635 hours
- d. 2 days 5 hours 6 minutes =  $(2 \times 24 \times 60 + 5 \times 60 + 6)$  minutes  
=  $(2880 + 300 + 6)$  minute = 3186 minutes.
- e. 5 days 7 hours 26 minutes =  $(5 \times 24 \times 60 + 7 \times 60 + 26)$  minutes.  
=  $(7200 + 420 + 26)$  minutes = 7676 minutes.
- f. 7 hours 23 minutes 25 seconds =  $(7 \times 60 \times 60 + 23 \times 60 + 25)$  seconds  
=  $(25,200 + 1380 + 25)$  seconds = 26,605 seconds.

**2. Convert the following into seconds :**

- a. 15 minutes 25 seconds =  $(1 \times 5 \times 60 + 25)$  seconds  
=  $(1500 + 25)$  seconds = 1925 seconds.
- b. 45 minutes 55 seconds =  $(45 \times 60 + 55)$  seconds  
=  $(2700 + 55)$  seconds = 2755 seconds.

- c. 2 hours 30 minutes 30 seconds  
 $= (2 \times 60 + 30) \text{ minutes} + 30 \text{ seconds}$   
 $= (120 + 30) \text{ minutes} + 30 \text{ seconds}$   
 $= (150 \times 60) \text{ seconds} + 30 \text{ seconds}$   
 $= 900 \text{ seconds} + 30 \text{ seconds}$   
 $= 9000 \text{ seconds} + 30 \text{ seconds}$   
 $= 9030 \text{ seconds.}$
- d. 25 minutes 15 seconds  $= (25 \times 60) \text{ seconds} + 15 \text{ seconds}$   
 $= 150 \text{ seconds} + 15 \text{ seconds}$   
 $= 1515 \text{ seconds.}$
- e. 4 hours 40 minutes 36 seconds  $= (4 \times 60) \text{ minutes} + 40 \text{ minute}$   
 $+ 36 \text{ second}$   
 $= (280) \text{ minutes} + 36 \text{ seconds}$   
 $= 280 \times 60 \text{ seconds} + 36 \text{ seconds}$   
 $= 16800 \text{ seconds} + 36 \text{ seconds}$   
 $= 16,836 \text{ seconds}$
- f. 55 minutes 10 seconds  $= (55 \times 60) \text{ seconds} + 10 \text{ seconds}$   
 $= 3300 \text{ seconds} + 10 \text{ seconds}$   
 $= 3310 \text{ seconds}$

**3. Convert the following into months :**

- 1 year = 12 months
- a. 12 years  $= 12 \times 12 \text{ months} = 144 \text{ months}$
- b. 20 years  $= 20 \times 12 \text{ months} = 240 \text{ months}$
- c. 4 years 3 months  $= 4 \times 12 \text{ months} + 3 \text{ months}$   
 $= 48 \text{ months} + 3 \text{ months}$   
 $= 51 \text{ months}$
- d. 10 years 17 months  $= 10 \times 12 \text{ months} + 17 \text{ months}$   
 $= 120 \text{ months} + 17 \text{ months}$   
 $= 137 \text{ months}$
- e. 6 years 7 months  $= 6 \times 12 \text{ months} + 7 \text{ months}$   
 $= 72 \text{ months} + 7 \text{ months} = 79 \text{ months}$
- f. 11 years 20 months  $= 11 \times 12 \text{ months} + 20 \text{ months}$   
 $= 132 \text{ months} + 20 \text{ months} = 152 \text{ months}$

**Exercise 19.5**

**1. Find the sum of**

- a. 9 years 9 months and 6 year 6 months

sum = 16 years 3 months.

	years	months
	9	9
+	6	6
	15	15
=	16	3

- b. 19 minutes 45 seconds and 18 minutes 35 seconds

sum = 38 minutes 20 seconds

	years	months	year
	5	6	
+	7	8	
	12	14	
=	1	0	14



c. 8 hours 30 minutes and 5 hours 30 minutes

sum = 38 minutes 20 Seconds

hr	min
8	50
+ 5	30
13	80
= 14	20

d. 19 minutes 45 seconds and 18 minutes 35 seconds

sum = 38 minutes 20 seconds

Min	Sec
19	45
+ 18	35
37	80
= 38	20

e. 12 years 10 months and 18 years 6 months

sum = 31 years 4 months

years	months
12	10
+ 18	5
30	16
= 31	4

f. 3 hours 30 minutes 30 seconds and 4 hour 40 minutes 40 second

sum = 8 hours 11 minutes 10 seconds.

hours	min	sec
3	5	6
+ 4	7	8
7	12	14
= 8	0	14

- Departure time of train from Meerut = 18:05 hours  
 Time was taken to each Saharanpur = 2 hours + 5 min  
 Arrival time of train Saharanpur = 18:05 hours + 2:45 hours.  
 = 20:50 hours  
 So, the train reaches Saharanpur at 20:50 hours.
- Starting time of school = 8:30 am  
 Duration of school = 5 hours 15 minutes = 05:15 hours  
 closing time of school = 8:30 + 5:15 = 13:45 hour  
 = 1:45 pm.  
 So, the school closed at 1:45.
- Ravi went to Delhi on 9th April  
 Ravi returned home on 21st August  
 Duration of staying at Delhi = in April 22 days + in may 31 days  
 + in june 30 days + in july 31 days + in August 21 days = 135 days.
- Starting date of examination = 10 th March  
 Ending date of examination = 12 th April  
 Duration in which examination on took place - in march  
 22 days + in April 12 days = 34 days

**Exercise 19.6**

1. a. Difference of 8 years 1 months and 5 years 10 months  
= 2 years and 4 months

years	months
8	1
<del>8</del>	<del>1</del>
- 5	10
2	4

- b. Difference of 7 months 25 days and 4 months 3 days = 3 months 22 days.

years	months
7	25
- 4	3
3	22

- c. Difference of 18 hours 15 minutes and 6 hours 50 minutes = 11 hours 25 minutes

hour	minutes
18	15
<del>18</del>	<del>15</del>
- 6	50
11	25

- d. Difference of 30 minutes 10 seconds and 20 minutes 50 seconds.  
= 9 minutes 20 seconds

min	sec
30	10
<del>30</del>	<del>10</del>
- 20	50
9	20

2. Departure time from Delhi = 0430  
Arrival time at Mumbai = 0715  
Time was taken to reach Mumbai = 2 hours 45 min  
So, An aeroplane takes 2h 45minutes to reach Mumbai.

min	sec
7	15
<del>7</del>	<del>15</del>
- 4	30
2	45

3. Time of Sun rise = 8:20 am = 0820 hours  
Time of sun set = 7:30 pm = 1930 hours  
∴ The length of day = 11 hours 10 minutes

hours	min
19	30
- 8	20
11	10

4. Time of office open = 9:45 am = 0945 hours  
time of office close = 5 pm = 1700 hours

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So, Ravi's office remain open for 7 hours 15 minutes.

hours	min
17	00
<del>17</del>	<del>00</del>
- 9	45
7	15

5. Time to go to school = 7:30 am  
Time to reach back home = 1445 hours

So, Renu remains 7h 45 min, out of her house.

hours	min
14	45
- 7	00
7	45

## 20 Patterns

### Exercise 20.1

1. Complete the multiplication pairs given below :

$$\begin{array}{cccc}
 3 \times 3 = 9 & 7 \times 7 = 49 & 5 \times 5 = 25 & 9 \times 9 = 81 \\
 2 \times 4 = 8 & 6 \times 8 = 48 & 4 \times 6 = 24 & 8 \times 10 = 80 \\
 \text{a. } 323 & \text{b. } 840 & \text{c. } 2024 & \text{d. } 3248
 \end{array}$$

2. There number when multiplied together gives the same answer as when they are added. What are these number?

$$\begin{array}{ccccccc}
 1 & \times & 2 & \times & 3 & = & 6 \\
 1 & + & 2 & + & 3 & = & 6
 \end{array}$$

3.  $\begin{array}{cccccc} 3 & & 4 & & 8 & & 3 & & 7 & & 4 \\ 21 & & 85 & & 134 & & 723 & & 1096 & & 8320 \\ \downarrow & & \downarrow & & \downarrow & & \downarrow & & \downarrow & & \downarrow \\ 3 & & 4 & & 8 & & 3 & & 7 & & 4 \end{array}$

4. (a) 

9	8	1	14
2	11	3	16
4	5	13	10
2	6	10	14

- (b) 

2	$\times$	4	+	1	9
+		+		$\times$	
5	+	7	$\div$	6	2
$\times$		-		+	
3	+	8	-	9	2
21		3		15	

5. Find out the sum of the odd numbers in each row using a pattern :

1										1
3	5									8
7	9	11	27							54
13	15	17	19	64						128
21	23	25	27	29						125
31	33	35	37	39	41					216
43	45	47	49	51	53	55				343

6. Find out the following products in an easy way without written work :

a.  $9 \times 11 = 99$       b.  $19 \times 21 = 399$       c.  $39 \times 41 = 1599$

7. An astronaut who went to Mars found numbers written there as follows :

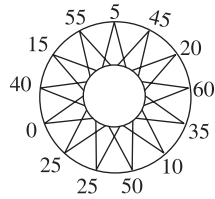
a.  $52 = \square\square\square\square\square\square\square\square$       b.  $17 = \square\square\square\square$   
c.  $52 = \square\square\square\square\square$       d.  $17 = \square\square\square\square$

8. Find out the patterns and fill in the boxes :

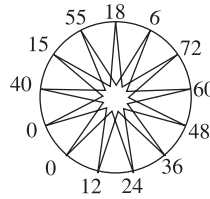
$$\begin{array}{|c|c|} \hline 48 \\ \hline 12 & 240 \\ \hline \end{array} \quad \begin{array}{|c|c|} \hline 60 \\ \hline 15 & 300 \\ \hline \end{array} \quad \begin{array}{|c|c|} \hline 72 \\ \hline 18 & 360 \\ \hline \end{array}$$

9. Draw lines joining the multiples in order. Start from 0 and finish also at 0 :

(a) Multiples of 5



(b) Multiples of 6



Colour it yourself.

10. Study the pattern and extend it by two steps :

$$555 \div 15 = 37$$

$$666 \div 18 = 37$$

11. Study the pattern in multiplications given below :

$$\begin{array}{rcl} 1 & \times & 1 = 1 \\ 11 & \times & 11 = 121 \\ 111 & \times & 111 = 12321 \\ 1111 & \times & 1111 = 1234321 \\ 11111 & \times & 11111 = 123454321 \\ 111111 & \times & 111111 = 12345654321 \end{array}$$

The middle digit in the product is the sum of the digit of the multiple and or multiplier.

12. Study the patterns in the addition given below and find the rule. also fill in the blanks by using rule :

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

$$1 + 2 + 3 = 6, \left( \frac{3 \times 4}{2} \right)$$

$$1 + 2 + 3 + 4 = 10, \left( \frac{4 \times 5}{2} \right)$$

$$1 + 2 + 3 + 4 + 5 = 15, \left( \frac{5 \times 6}{2} \right)$$

$$1 + 2 + 3 + 4 + 5 + 6 = 21, \left( \frac{6 \times 7}{2} \right)$$

$$\text{Sum of first } n \text{ natural number} = \frac{n(n+1)}{2}$$

### MCQs

Tick (✓) the correct answer :

Ans. 1. i    2. i    3. i    4. iii

## 21 Representing Data Pictorially

### Exercise 21.1

- The given pictograph shows various fruits available with a fruit seller.  
Answer the questions that follow the pictograph :
  - $41 \times 100 = 4100$  fruits
  - $11 \times 100 = 1100$  mangoes and  $12 \times 100 = 1200$  mangoes.
  - Banana,  $600 \times 100 = 600$  Banana are more.
  - Banana and Apples are maximum and equal.
- Answer the following questions through the given pictograph :
  - Class IV,  $\text{₹}10 \times 10 = \text{₹}110$
  - Class,  $\text{₹}10 \times 5 = \text{₹}50$
  - $\text{₹}10 \times 7 = \text{₹}70$
  - $\text{₹}10 \times (5 + 8 + 7 + 11 + 10) = \text{₹}10 \times 41 = \text{₹}410$

### Exercise 21.2

- A gun factory produces guns. The bar graph given here shows the number of guns produced in a particular week.  
Answer the following questions :
  - 240 square = 2400 gun
  - Friday, 600 guns
  - Saturday, 200 guns
  - 500 guns
- Complete the bar graph from the data :

