Chapter 1   Roman Numerals

A. **1.** 30 (10 + 10 + 10)   **2.** 26 (10 + 10 + 5 + 1)
3. 33 (10 + 10 + 10 + 1 + 1 + 1)   **4.** 39 (10 + 10 + 10 + 10 – 1)
5. 45 (50 – 10 + 5)   **6.** 48 (50 – 10 + 5 + 1 + 1 + 1)
7. 59 (50 + 10 – 1)   **8.** 64 (50 + 10 + 5 – 1)
9. 72 (50 + 10 + 10 + 1 + 1)   **10.** 81 (50 + 10 + 10 + 10 + 1)

B. **1.** XX (10 + 10)

2. L (50)

3. XIX (10 + 10 – 1)

4. XXXVII (10+10+10+5+1+1)

5. XLVIII (50 – 10 + 5 + 1 + 1 + 1)

6. XXVIII (10+10+5+1+1+1)

7. LXVI (50 + 10 + 5 + 1)

8. LXXV (50 + 10 + 10 + 5)

9. LVIII (50 + 5 + 1 + 1 + 1)

10. LXXXV (50+10+10+10+5)

C. Given in answer sheet.   ●

Chapter 2   Number System

A. Given in answer sheet.

B. **1.** Indian   3,65,256

3,	65,	256
Lakhs	Thousands	Ones

International 365,256

365,	256
Thousands	Ones

2. Indian   35,64,928

35,	64,	928
Lakhs	Thousands	Ones

International 3,564,928

3	564,	928
Millions	Thousands	Ones

C. Given in answer sheet.

1. **a.** 7; **b.** 9; **c.** 0; **d.** 1   [∵ face value of a digit in a number is the value of the digit itself irrespective of its place]

2. We know that place value of a digit in a number
= [face value of the digit] × [value of the place]
So the place value in each of these parts are as follows :

a. $7 \times 100 = 700$ [∵ 7 is at hundreds place and its face value is 7]
b. $3 \times 10 = 30$ [∵ 3 is at tens place so we have to multiply the face value (3) with place value (10)]

c. $5 \times 10000 = 50000$ [∵ 5 is at tens thousands place so we have to multiply the face value which is 5 with the place value of ten thousands, i.e. 10000]

d. (ten thousands place) ← ⑨ 9 9 9 ⑨ → (ones place)
In the given number there are two incircled digits. The digits on the extreme right is at ones place so its value is $9 \times 1 = 9$.
While the digit at the extreme left is at ten thousands place so its value is $9 \times 10,000 = 90,000$.

e. 7 is at ten thousands place so its value is 7×10000=70000

f. 0   [∵ place and face value of 0 is always 0]

g. In the given number the incircled digit is 1
which is at lakhs place so its value is   ⌊1⌋   ×   ⌊100000⌋ = 100000
                                (Face value)   (Place value)

h. 6 is at ones place so its value is   ⌊6⌋   ×   ⌊1⌋   =   6
                                (Face value)   (Place value)
0   [∵ place and face value of 0 is always 0]
5 [encircled] is at ten thousands place
So its value is equal to   ⇒ $5 \times 10000 = 50000$

B. **1.** Greatest number from the given digits 4, 5, 6, 8 is
= 8654   [arranging in descending order: $8 > 6 > 5 > 4$]
Smallest number from the given digits 4, 5, 6, 8 is
= 4568 [arranging in ascending order (from left to right) : $4 < 5 < 6 < 8$]

2. Given digits   3, 0, 7, 1
Greatest number — 7 3 1 0   [arranging in descending order]
Smallest number — 1 0 3 7   [arranging in ascending order]
A number cannot start with zero hence zero comes after 1 here.

3. Given digits   3, 4, 2, 7, 8
Greatest number — 8 7 4 3 2   [arranging in descending order from left to right]
Smallest number — 2 3 4 7 8   [arranging in ascending order from left to right]

4. Given digits   0, 6, 9, 8, 1, 4
     Greatest number — 9 8 6 4 1 0   [arranging in descending order]
     Smallest number — 1 0 4 6 8 9   [arranging in ascending order after
                                     putting zero at appropriate place as
                                     a number cannot start with zero]

Assess Yourself 2.3

A.   **1.** To complete this counting pattern we have to find the common difference which is obtained by subtracting previous term from a given term.
Here common difference $= 9 - 6 = 3$ *or* $6 - 3 = 3$
So next terms can be obtained by adding the common difference.
Hence the pattern goes as
$3, 6, 9, 9 + 3 = 12, 12 + 3 = 15, 15 + 3 = 18, 18 + 3 = 21, 21 + 3 = 24, 24 + 3 = 27$
Hence $= 3, 6, 9, 12, 15, 18, 21, 24, 27$

    2. Common difference $= 4 - 2 = 2$ *or* $8 - 6 = 2$ *or* $6 - 4 = 2$
So the pattern goes as
$2, 4, 6, 8, 8 + 2 = 10, 10 + 2 = 12, 12 + 2 = 14, 14 + 2 = 16, 16 + 2 = 18, 18 + 2 = 20$
Hence $= 2, 4, 6, 8, 10, 12, 14, 16, 18, 20$

    3. Common difference $= 7 - 2 = 5$ *or* $12 - 7 = 5$
So the pattern goes as
$2, 7, 12, 12 + 5 = 17, 17 + 5 = 22, 22 + 5 = 27, 27 + 5 = 32, 32 + 5 = 37$
Hence $= 2, 7, 12, 17, 22, 27, 32, 37$

    4. Common difference $= 20 - 15 = 5$ *or* $15 - 10 = 5$
So the pattern goes as
$10, 15, 20, 20 + 5 = 25, 25 + 5 = 30, 30 + 5 = 35, 35 + 5 = 40, 40 + 5 = 45, 45 + 5 = 50$
Hence $= 10, 15, 20, 25, 30, 35, 40, 45, 50$

B.   **1.** $<$;   **2.** $<$;   **3.** $>$

Assess Yourself 2.4

A.   **1.** Compare to find the greatest number
     $742 > 274$ and $742 > 247$
                                 Hence, 742 is the greatest number.
     Compare the other numbers
             $274 > 247$ Hence 247 is least.
     Hence the order from least to greatest is
             247, 274, 742   [Ascending order]
            (least)   (greatest)

2. 87, 107, 71   [given]

               107 > 87

               107 > 71   so 107 is greatest

Also   87 > 71   so 71 is least

Hence the order from least to greatest is 71, 87, 107   [from left to right]

3. 621, 216, 612   [given]

               621 > 216

               621 > 612   so 621 is greatest

Also   612 > 216   so 216 is least

Hence the order from least to greatest is 216, 612, 621

4. 430, 380, 410   [given]

               430 > 380

               430 > 410   so 430 is greatest

Also   410 > 380   so 380 is least

Hence the order from least to greatest is 380, 410, 430

5. 360, 440, 390   [given]

               440 > 360

               440 > 390   so 440 is greatest

Also   390 > 360   so 360 is least

Hence the order from least to greatest is 360, 390, 440

6. 111, 121, 112   [given]

               121 > 111

               121 > 112   so 121 is greatest

Also   112 > 111   so 111 is least

Hence order from least to greatest is 111, 112, 121

B.   1,450; 1,350; 1,430. Compare to find the greatest number

               1450 > 1350

               1450 > 1430   so 1450 is greatest

Also   1430 > 1350   so 1350 is least

Hence the order from greatest to least is 1450; 1430; 1350

Note : [The basic difference in this method from previous method is that we have to arrange the number in final ordering in descending order (reverse of ascending)]

Similarly in parts 2 – 6

2. 1480; 1420; 1380

3.   690; 609; 96

4. 1045; 1001; 981

5. 4073; 4037; 3740

6.   12729; 12611; 10550

⇨ Cumulative Revision

A. Place value of a digit in a numeral
= (face value of the digit) × (value of the place)

1. 2 ④ 6

Here 4 is at tens place so its place value is = 4 × 10 = 40

(Face value) (Place value)

2. 1 4 7 ⑨ $9 \times 1 = 9$
3. 7 6 ⑤ $5 \times 1 = 5$
4. 7 ③ 8 0 $3 \times 100 = 300$
5. 1 2 ⑥ 1 $6 \times 10 = 60$

B.
1. 739   [Standard form]
   700 + 30 + 9   [Expanded form]
2. 1356   [Standard form]
   1000 + 300 + 50 + 6   [Expanded form]
3. 27,369   [Standard form]
   20000 + 7000 + 300 + 60 + 9   [Expanded form]
4. 29711   [Standard form]
   20000 + 9000 + 700 + 10 + 1   [Expanded form]
5. 46220   [Standard form]
   40000 + 6000 + 200 + 20   [Expanded form]

Their words name has already been given in answer sheet.

C.
1. 2   120   so, 2 thousands, 120 ones,

(Thousands period) (Ones Period)

2. 57   473   so, 57 thousands, 473 ones,

(Thousands period) (Ones Period)

3. 1   20   530

(Lakhs period) (Thousands period) (Ones Period)

so, 1 lakh, 20 thousands, 530 ones

4. 31   14   480

(Lakhs period) (Thousands period) (Ones Period)

so, 31 lakhs, 14 thousands, 480 ones.

Number names are given in the answer sheet.

D.
1. 7   325

(Thousands period) (Ones Period)   so, 7 thousands, 325 ones

2. 44   313

(Thousands period) (Ones Period)   so, 44 thousands, 313 ones.

3. 637   200

(Thousands period)   (Ones Period)   so, 637 thousands, 200 ones.

4. 710   520

(Thousands period)   (Ones Period)   so, 710 thousands, 520 ones

Number names are given in the answer sheet.

E. **1.** 2, 1, 3, 0, 7, 5

Greatest number : 7 5 3 2 1 0

             [arranging digits in descending order from left to right]

Smallest number : 1 0 2 3 5 7

               [arranging in ascending order from left to right after

                     putting zero to second place]

  2. 7, 3, 4, 1, 2

Greatest number : 7 4 3 2 1   [arranging in descending order]

Smallest number : 1 2 3 4 7   [arranging in ascending order]

  3. 1,9 2, 6

Greatest number : 9 6 2 1   [arranging in descending order]

Smallest number : 1 2 6 9   [arranging in ascending order]

  4. 0, 2, 7, 8, 3, 9

Greatest number : 9 8 7 3 2 0   [arranging in descending order]

Smallest number : 2 0 3 7 8 9   [arranging in ascending order after

                              placing 0 to second place as a

                              number cannot start with zero].

F. **1.** >, **2.** <, **3.** <, **4.** >

G. **1.** Compare to find the greatest

                          742 > 472

                          742 > 427

So, 742 is greatest

Now compare other numbers to find least 472 > 427. Hence 427 is least.

So the order is

742, 472, 427   Descending order or from greatest to least

427, 472, 742   Ascending order or from least to greatest or reverse of

                    descending pattern.

  2. Similarly

187, 178, 107 [Descending order]   107, 178, 187 [Ascending order]

  3. 3172, 3090, 3035   [Descending order]

3035, 3090, 3172   [Ascending order]

H. **1.** Greatest 3165, Smallest 3015

As 3165 has greatest numbers in hundreds and tens places and 3015 has

smallest numbers at hundreds and tens places.

Chapter 3   Addition

Assess Yourself 3.1

A.

1.
```
     1
 8 1 3 4
+ 1 7 2 6
 9 8 6 0
```

2.
```
 1
 6 6 2 3
+ 3 5 1 1
1 0 1 3 4
```

3.
```
 3 0 0 0
+ 4 6 0 0
 7 6 0 0
```

4.
```
     1
 6 5 9 2
+ 2 1 3 5
 8 7 2 7
```

5.
```
 5 2 0 0
+ 3 3 0 0
 8 5 0 0
```

6.
```
 1 1 1
 2 6 9 9
+ 1 5 0 4
 4 2 0 3
```

7.
```
 1 8 6 3
+ 7 1 0 0
 8 9 6 3
```

8.
```
 1 1 1
 1 1 7 5
+   9 4 6
 2 1 2 1
```

B.

1.
```
 5 2
 8 4
+   3
1 3 9
```

2.
```
 1
 2 6 1
 7 6 2
+ 8 6 3
1 8 8 6
```

3.
```
 1 1
   6 3
 1 7 6
+ 7 0 5
 9 4 4
```

4.
```
 1 1
 5 9 2
 2 7
+ 7 2 1
1 3 4 0
```

5.
```
 1
 5 6
 9 4
+   7
1 5 7
```

6.
```
 1 1
 8 8 0
 2 4 3
+   2 9
1 1 5 2
```

7.
```
       1
 3 0 7
 4 1 2
+ 2 3 1
 9 5 0
```

8.
```
 1 1
 6 7 7
 3 5 2
+     8
1 0 3 7
```

A.

1.
```
  54123
+ 31765
  85888
```

2.
```
  615325
+ 352152
  967477
```

3.
```
  633482
   40002
+ 12501
  685985
```

4.
```
  533266
  154323
+ 202300
  889889
```

B.

1.
```
  23891
+ 15102
  38993
```

2.
```
  43021
+ 23715
  66736
```

3.
```
  35245
  23412
+ 1021
  59678
```

4.
```
  56123
  32150
+ 10324
  98597
```

5.
```
  432403
+ 454052
  886455
```

6.
```
  854613
+ 123275
  977888
```

7.
```
  752302
   13425
+ 31271
  796998
```

8.
```
  521255
  130303
+ 241220
  892778
```

C.

1.
```
  1 1 1 1
  37679
+ 44568
  82247
```

2.
```
  1 1 1 1
  713757
+ 257498
  971255
```

3.
```
  1 2 1 1 1
  406432
   98466
+ 18579
  523477
```

4.
```
  1   1   1
  656784
  140106
+ 12301
  809191
```

D.

1.
```
  1 1
  26214
+ 56923
  83137
```

2.
```
    1 1
  42564
+ 65472
  108036
```

3.
```
  1 1 1 1
  34573
  30013
+ 7887
  72473
```

4.
```
  1 1 1   1
  324815
   81653
+ 4525
  410993
```

5.
```
  1
  562327
+ 287462
  849789
```

6.
```
    1 1 1
  534125
+ 425891
  960016
```

7.
```
  2 1 1 1 1
  258049
  154273
+ 95817
  508139
```

8.
```
  1 1 1 1 2
  536218
  326788
+ 70649
  933655
```

1. Cost of a television = ` 9500
Cost of a bicycle = ` 3475
Total cost of both the items will be their sum, i.e. we have to add the cost of each item.
So the total cost to buy both the items is ` 12975.

```
  9500
+ 3475
  12975
```

2. Lemons in first basket = 475
Lemons in second basket = 685
To find the total number of lemons we have to add these lemons in individual basket.
So there are 1160 lemons in all in both the baskets.

```
  1 1
   475
+ 685
  1160
```

3. Population of first village = 2575
Population of second village = 1897
So total population will be the sum of population of each village.
Hence the total population of both the villages is 4472.

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

4. Bags of rice = 23578
Bags of wheat = 45326
Bags of sugar = 2569
So total bags in godown will be the sum of bags of all types.
Total bags = 71473

$$\begin{array}{r} {}^{1\ 1\ 1\ 2}\\ 2\ 3\ 5\ 7\ 8\\ 4\ 5\ 3\ 2\ 6\\ +\ 2\ 5\ 6\ 9\\ \hline 7\ 1\ 4\ 7\ 3 \end{array}$$

5. Toys produed in January = 42567
Toys produced in February = 25789
Toys produced in March = 22578
So total toys produced will be the sum of toys produced in each month.
∴ Toys produced in three months are 90934.

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

6. Number of English books = 32592
Number of Hindi books = 48544
Books of other languages = 25928
Total books will be the sum of all the books.
So, total books in the library are 107064.

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

⇨ Cumulative Revision

A. **1.** 4; **2.** 20; **3.** 600;
4. 11 **5.** (a) addends (b) sum

B. **1.** 53 + 19 and 19 + 53
2. 28 + 40
3. Yes because a + b = c = b + a
4. (a) 15 (b) 14

C. **1. – 4.** Given in the answer sheet.

D. **1.** 4 because 825 + 221 = 1046

2. Yes, we have to regroup 11 tens to 1 hundred and 1 ten

3. (a) 274 [We have to regroup 13 tens to 1 hundred and 3 ones]
+ 364
638

Similarly

(b) 295
+ 326
621

(c) 479
+ 178
657

●

Assess Yourself 4.1

1.
```
   2 10 12
   3  1  2  4
 − 2  8  7  0
 ─────────────
   0  2  5  4
```

2.
```
   4  1  1  5
 − 2  1  1  0
 ─────────────
   2  0  0  5
```

3.
```
   6 12
   7  2  7  0
 − 2  3  0  0
 ─────────────
   4  9  7  0
```

B. Subtract 112 from 1234, we get 1122
and given answer is 114
Hence her answer was not correct.

```
   1  2  3  4
 −    1  1  2
 ─────────────
   1  1  2  2
```

Assess Yourself 4.2

A.

1.
```
          6 11 11
   4  8  7  2  1
 − 1  4  2  9  7
 ─────────────────
   3  4  4  2  4
```

2.
```
       3  9 17 13
   8  4  0  8  3
 −    2  3  9  7
 ─────────────────
   8  1  6  8  6
```

3.
```
          4 12
   7  5  2  9  5
 − 4  2  6  7  1
 ─────────────────
   3  2  6  2  4
```

4.
```
             4 17
   6  5  6  4  5  7
 − 1  1  3  1  2  9
 ────────────────────
   5  4  3  3  2  8
```

5.
```
          6 15
   4  5  7  5  0  9
 − 4  3  2  9  0  5
 ────────────────────
      2  4  6  0  4
```

6.
```
             6 14 16
   5  7  4  7  5  6  0
 − 5  1  3  6  7  0
 ────────────────────
   5  2  3  3  8  9  0
```

B.

1.
```
          3 10
   8  7  9  4  0
 −    4  7  1  9
 ─────────────────
   8  3  2  2  1
```

2.
```
   0  9  9 14 13 10
   1  0  0  5  4  0
 −    5  5  9  4  3
 ────────────────────
      4  4  5  9  7
```

3.
```
   7 10 7  9 17 10
   8  0  8  0  8  0
 −    8  7  8  8  8
 ────────────────────
   7  2  0  1  9  2
```

4.
```
   0 15 2 13 10
   7  1  5  3  4  0
 −       6  0  6  6
 ────────────────────
   7  0  9  2  7  4
```

5.
```
   8 12    6 13
   9  2  8  7  3  7
 − 3  4  7  2  4  1
 ────────────────────
   5  8  1  4  9  6
```

6.
```
   0  9  9 14 13 10
   1  0  0  5  4  0
 −          9  9  9
 ────────────────────
      9  9  5  4  1
```

C.
```
   5 11 14 2 11
   6  2  4  3  1
 − 4  7  9  2  5
 ─────────────────
   1  4  5  0  6
```

D.
```
             8 10 14
   7  1  2  9  4  4
 − 3  1  2  1  6  7
 ────────────────────
   4  0  0  7  4  7
```

⇨ Cumulative Revision

A.

1.
```
   5 17
   6  7
 −  4  8
 ────────
   1  9
```

2.
```
   7 12
   8  2
 −  4  7
 ────────
   3  5
```

3.
```
   9  8
 − 7  6
 ────────
   2  2
```

4.
```
   8    11
   2  9  1
 −    7  7
 ──────────
   2  1  4
```

5. $\boxed{6}\ \boxed{13}$

$$\begin{array}{r} 5\ \not7\ \not3 \\ -\ 1\ 4\ 4 \\ \hline 4\ 2\ 9 \end{array}$$

6. $\boxed{3}\ \boxed{10}$

$$\begin{array}{r} 4\ \not4\ \not0 \\ -\ 1\ 3\ 6 \\ \hline 3\ 0\ 4 \end{array}$$

B. **1.** $\boxed{4}\ \boxed{15}\ \boxed{14}$

$$\begin{array}{r} \not5\ \not6\ \not4 \\ -\ 2\ 7\ 5 \\ \hline 2\ 8\ 9 \end{array}$$

2. $\boxed{6}\ \boxed{9}\ \boxed{15}$

$$\begin{array}{r} \not7\ \not0\ \not5 \\ -\ \quad 9\ 6 \\ \hline 6\ 0\ 9 \end{array}$$

3. $\boxed{3}\ \boxed{9}\ \boxed{18}$

$$\begin{array}{r} \not4\ \not0\ \not8 \\ -\ 2\ 1\ 9 \\ \hline 1\ 8\ 9 \end{array}$$

C. **1.** $\boxed{5}\ \boxed{10}\ \boxed{11}\ \boxed{13}$

$$\begin{array}{r} \not6\ \not1\ \not2\ \not3 \\ -\ 3\ 5\ 7\ 7 \\ \hline 2\ 5\ 4\ 6 \end{array}$$

2.

$$\begin{array}{r} 7\ 2\ 0\ 0 \\ -\ 5\ 0\ 0\ 0 \\ \hline 2\ 2\ 0\ 0 \end{array}$$

3. $\boxed{5}\ \boxed{9}\ \boxed{9}\ \boxed{10}$

$$\begin{array}{r} \not6\ \not0\ \not0\ \not0 \\ -\ \quad 5\ 8\ 9 \\ \hline 5\ 4\ 1\ 1 \end{array}$$

4.

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

D. **1.** Love City height = 35,980 m
Light City height = 63,695 m
We have to find the difference between the height of these cities
i.e. [63695 – 35980] m   *or*

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

So Light City is 27715 m higher than Love City.

2. Hate City height = 55280 m
Dark City height = 73685 m
We have to find the difference between the height of these cities
i.e [73685 – 55280]

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

So Dark City is 18405 m higher than Hate City.

3. Height of Love City = 35980 m
Height of Rose City = 44390 m
Their difference in height is

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

which is more than 1000 hence Rose City is higher than Love City by 1000 m.

4. Height of Dark City = 73685
Height of Lotus City = 31090
Their difference in height is

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

Chapter 5   Multiplication

Assess Yourself 5.1

A. **1.** (a) $5 + 5 + 5 = 15$ (b) 3 groups of 5 equal to 15

      2. (a) $4 + 4 + 4 = 12$ (b) 3 columns of 4 equal to 12

B. **1.** (a) $5 + 5 = 10$ (b) $2 \times 5 = 10$ [$\because$ a + a = 2a or 2 × a]

      2. (a) $6 + 6 + 6 = 18$ (b) $3 \times 6 = 18$ [$\because$ a + a + a = 3a or 3 × a]

C. **1.** 12   **2.** 16   **3.** 10

D. **1.** 0   **2.** 2   **3.** 0

Assess Yourself 5.2

A. **1.** $\underset{\downarrow}{\underline{5 \times 2}} \times \underset{\downarrow}{1}$ or $5 \times \underset{\downarrow}{\underline{2 \times 1}}$

        $= 10 \times 1 = 10$ $= 5 \times 2 = 10$

        Take any order and pair 2 numbers and then multiply their product with the third numbers.

      2. $(8 \times 0) \times 6$ $\Rightarrow$ 0×6 $\Rightarrow$ 0

                               [$\because$ 0 multiplied by any number gives product 0]

      3. $(6 \times 1) \times 4$ $\Rightarrow$ 6×4 $\Rightarrow$ 24   [$\because$ $6 \times 1 = 6$]

      4. $\underset{\downarrow}{\underline{3 \times 2}} \times \underset{\downarrow}{3}$ *or* $3 \times \underset{\downarrow}{\underline{2 \times 3}}$

        $= 6 \times 3 = 18$ $= 3 \times 6 = 18$

B. **1.** $6 \boxed{\times} 4 = 4 \boxed{\times} 6 = 24$ [By order property of multiplication]

      2. $23 \boxed{+} 11 = 11 \boxed{+} 23 = 34$ [By order property of addition]

C. **1.** $6 \times (5 \boxed{+} 7) = 6 \times 5 + 6 \times 7$ [$\because$ $x \times (y + z) = x \times y + x \times z$ distributive
                                        property of mulitiplication over addition]

      2. $10 \times (4 + 5) = 10 \times \boxed{4} + 10 \times \boxed{5}$
                  [By distributive property of multiplication over addition]

      3. $11 \times 12 + 6 \times 12 = (11 + 6) \times \boxed{12}$
                  [By distributive property of multiplication over addition]

A. **1.** 5×2000
$= 5 \times 2 \times 1000$
$= 10 \times 1000$
$= 10000$

2. 7×800
$= 7 \times 8 \times 100$
$= 56 \times 100$
$= 5600$

3. 4×3000
$= 4 \times 3 \times 1000$
$= 12 \times 1000$
$= 12000$

4. 9×1100
$= 9 \times 11 \times 100$
$= 99 \times 100$
$= 9900$

5. 10×2000
$= 10 \times 2 \times 1000$
$= 20 \times 1000$
$= 20000$

6. 9×3000
$= 9 \times 3 \times 1000$
$= 27 \times 1000$
$= 27000$

B. 1.
```
      1 8 3
    × 2 0 4   → 200 + 0 + 4
      7 3 2   ←     183 × 4
    0 0 0 0   ←     183 × 0
+ 3 6 6 0 0   ←   183 × 200
  3 7 3 3 2
```

2.
```
        3 2 0
      × 1 0 5   → 100 + 0 + 5
      1 6 0 0   ←     320 × 5
      0 0 0 0   ←     320 × 0
  + 3 2 0 0 0   ←   320 × 100
    3 3 6 0 0
```

3.
```
      4 8 5
    × 1 3 2   → 100 + 30 + 2
      9 7 0   ←       485 × 2
    1 4 5 5 0 ←      485 × 30
  + 4 8 5 0 0 ←     485 × 100
    6 4 0 2 0
```

4.
```
        5 0 1
      × 2 3 6   → 200 + 30 + 6
      3 0 0 6   ←       501 × 6
    1 5 0 3 0   ←      501 × 30
  + 1 0 0 2 0 0 ←     501 × 200
    1 1 8 2 3 6
```

5.
```
        5 7 4
      × 1 0 5   → 100 + 0 + 5
      2 8 7 0   ←     574 × 5
      0 0 0 0   ←     574 × 0
  + 5 7 4 0 0   ←   574 × 100
    6 0 2 7 0
```

6.
```
        6 3 2
      × 1 2 6   → 100 + 20 + 6
      3 7 9 2   ←       632 × 6
    1 2 6 4 0   ←      632 × 20
  + 6 3 2 0 0   ←     632 × 100
    7 9 6 3 2
```

A. **1.** $20 \times 6 = (20 + \boxed{4}) \times 6$ $\qquad (\because 24 = 20 + 4)$

2. $55 \times 7 = (\boxed{50} + 5) \times 7$

3. $49 \times 4 = (40 + 9) \times \boxed{4}$

4. $152 \times 3 = (100 + \boxed{50} + \boxed{2}) \times 3$

5. $271 \times 5 = (\boxed{200} + \boxed{70} + \boxed{1}) \times 5$

6. $74 \times 15 = (70 + \boxed{4}) \times 15$

7. $33 \times 12 = (\boxed{30} + \boxed{3}) \times 12$

8. $17 \times 425 = 17 \times (\boxed{400} + \boxed{20} + \boxed{5})$

B. **1.** $315 \times 7 = (300 + 10 + 5) \times 7 \quad = 300 \times 7 + 10 \times 7 + 5 \times 7$
$= 2100 + 70 + 35$
$= 2205$

2. $161 \times 9 = (100 + 60 + 1) \times 9 \quad = 100 \times 9 + 60 \times 9 + 1 \times 9$
$$= 900 + 540 + 9$$
$$= 1449$$

3. $96 \times 9 = (90 + 6) \times 9 \qquad = 90 \times 9 + 6 \times 9$
$$= 810 + 54 = 864$$

4. $1534 \times 8 = (1000 + 500 + 30 + 4) \times 8$
$$= 1000 \times 8 + 500 \times 8 + 30 \times 8 + 4 \times 8$$
$$= 8000 + 4000 + 240 + 32$$
$$= 12272$$

5. $249 \times 6 = (200 + 40 + 9) \times 6 \quad = 200 \times 6 + 40 \times 6 + 9 \times 6$
$$= 1200 + 240 + 54$$
$$= 1494$$

6. $3215 \times 7 = (3000 + 200 + 10 + 5) \times 7$
$$= 3000 \times 7 + 200 \times 7 + 10 \times 7 + 5 \times 7$$
$$= 21000 + 1400 + 70 + 35$$
$$= 22505$$

7. $776 \times 5 = (700 + 70 + 6) \times 5$
$$= 700 \times 5 + 70 \times 5 + 6 \times 5$$
$$= 3500 + 350 + 30$$
$$= 3880$$

8. $5593 \times 4 = (5000 + 500 + 90 + 3) \times 4$
$$= 5000 \times 4 + 500 \times 4 + 90 \times 4 + 3 \times 4$$
$$= 20000 + 2000 + 360 + 12$$
$$= 22372$$

$$\boxed{\text{Assess Yourself 5.5}}$$

A. Distance covered in one stride = 6 m
$\therefore$ Distance coverd in two stride $= 2 \times 6$ m
$$= 12 \text{ m}$$

B. Hay eaten by elephant in one day = 65 kg
$\therefore$ Hay eaten by elephant in three days $= 3 \times 65$ kg
$$= 195 \text{ kg}$$

C. Number of flowers in 1 row = 15
Number of flowers in 9 rows $= 15 \times 9$
$$= 135 \text{ flowers}$$

D. Brushes in one box = 12
Brushes in 15 boxes will be = 15 x 12
$$= 180 \text{ brushes}$$

E. Total number of persons = 6
Each person has bowl = 5
Sweets in each bowl = 4
(a) Total number of bowls = $6 \times 5 = 30$ bowls
(b) Total number of sweets = $30 \times 4 = 120$ sweets.

F. Cost of 1 book = ` 124
Cost of such 65 books = 124×65
$$= ` 8060$$

```
    1 2 4
  ×   6 5  →      60 + 5
    6 2 0  ←     124 × 5
+ 7 4 4 0  ←     124 × 60
  8 0 6 0
```

G. Cost of 1 table = ` 3425
Cost of 56 tables = 56×3425
$$= ` 191800$$

```
        3 4 2 5
      ×     5 6  →       50 + 6
      2 0 5 5 0  ←     3425  × 6
+ 1 7 1 2 5 0  ←     3425 × 50
  1 9 1 8 0 0
```

H. Cost of 1 ticket = ` 15
Cost of 347 tickets = 347×15
$$= ` 5205$$

```
      3 4 7
    ×   1 5  →      10 + 5
    1 7 3 5  ←     347  × 5
+ 3 4 7 0  ←     347 × 10
  5 2 0 5
```

⇨ Cumulative revision

A.   **1.** 5
      2. 4, 4;
      3. (a) $5 + 5 + 5 = 15$ (b) $5 \times 3 = 15$
      4. (a) $4 + 4 + 4 + 4 = 16$ (b) $4 \times 4 = 16$
B.   **1.** Do it yourself
      2. (a) 0   (b) 231   (c) 0   (d) 99
C.   **1.** $5 \times 2 \times 1 = 10$
      2. $(4 \times 1) \times 2 = 8$
      3. $5 \times 2 \times 5 = 50$
      4. $9 \times (1 \times 9) = 81$

5. $5 \times 4 \times 0 \ = 0$

6. $3 \times 8 \times 3 \ = 72$

7. 6×5000

or $= 6 \times 5 \times 1000$

$= 30 \times 1000$

$= 30000$

8. 20×3000

$= 2 \times 10 \times 3 \times 1000$

$= 2 \times 3 \times 10 \times 1000$

$= 6 \times 10000$

$= 60000$

9. 11×8000

$= 11 \times 8 \times 1000$

$= 88 \times 1000$

$= 88000$

D.   **1.**

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

$\times\ 5\ 5 \rightarrow 50 + 5$

$2\ 4\ 5\ 5 \leftarrow 491 \times 5$

$+\ 2\ 4\ 5\ 5\ 0 \leftarrow 491 \times 5$

2. $598 \times 38 = 22724$ [Same procedure]

3. $878 \times 42 = 36876$

4.

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

$\times\ 1\ 3\ 5 \rightarrow 100 + 30 + 5$

$4\ 4\ 6\ 0 \leftarrow 892 \times 5$

$2\ 6\ 7\ 6\ 0 \leftarrow 892 \times 30$

$+\ 8\ 9\ 2\ 0\ 0 \leftarrow 892 \times 100$

5. $278 \times 242 = 67276$ [same steps]

6. $909 \times 491 = 446319$

E.   **1.** 6×513
$= 6 \times (500 + 10 + 3)$
$= 6 \times 500 + 6 \times 10 + 6 \times 3$
$= 3000 + 60 + 18$
$= 3078$

2. 5×509
$= 5 \times (500 + 9)$
$= 5 \times 500 + 5 \times 9$
$= 2500 + 45$
$= 2545$

3. 9×1002
$= 9 \times (1000 + 2)$
$= 9 \times 1000 + 9 \times 2$
$= 9000 + 18$
$= 9018$

4. 5×2005 $\quad = 5 \times (2000 + 5)$
$\qquad\qquad\qquad = 5 \times 2000 + 5 \times 5$
$\qquad\qquad\qquad = 10000 + 25$
$\qquad\qquad\qquad = 10025$

5. 7×2040 $\quad = 7 \times (2000 + 40)$
$\qquad\qquad\qquad = 7 \times 2000 + 7 \times 40$
$\qquad\qquad\qquad = 14000 + 280$
$\qquad\qquad\qquad = 14280$

6. 4×5050 $\quad = 4 \times (5000 + 50)$
$\qquad\qquad\qquad = 4 \times 5000 + 4 \times 50$
$\qquad\qquad\qquad = 20000 + 200$
$\qquad\qquad\qquad = 20200$

7. 7×2100 $\quad = 7 \times (2000 + 100)$
$\qquad\qquad\qquad = 7 \times 2000 + 7 \times 100$
$\qquad\qquad\qquad = 14000 + 700$
$\qquad\qquad\qquad = 14700$

8. 8×4008 $\quad = 8 \times (4000 + 8)$
$\qquad\qquad\qquad = 8 \times 4000 + 8 \times 8$
$\qquad\qquad\qquad = 32000 + 64$
$\qquad\qquad\qquad = 32064$

F. **1.** Number of safety pins in 1 packet $= 275$
Number of safety pins in 332 packets will be $= 332 \times 275$,

i.e.
```
        3 3 2
      × 2 7 5  → 200 + 70 + 5
      1 6 6 0  ←      332 × 5
    2 3 2 4 0  ←      332 × 70
  + 6 6 4 0 0  ←      332 × 200
    9 1 3 0 0
```

So the number of safety pins in 332 packets will be 91300

2. Number of apples in one box $= 144$
Total number of apples in 250 boxes $= 144 \times 250$

i.e.
```
        1 4 4
      × 2 5 0  → 200 + 50 + 0
        0 0 0  ←      144 × 0
      7 2 0 0  ←      144 × 50
  + 2 8 8 0 0  ←      144 × 200
    3 6 0 0 0
```

So, the number of apples in 250 boxes $= 36000$.

3. Number of students = 2515

Money contributed by each student = ` 175

Total money collected = 2515×175

or

```
        2 5 1 5
      ×   1 7 5  → 100 + 70 + 5
      1 2 5 7 5  ←    2515 × 5
    1 7 6 0 5 0  ←   2515 × 70
  + 2 5 1 5 0 0  ←  2515 × 100
    4 4 0 1 2 5
```

So, the total money collected is $2515 \times 175 =$ ` 4,40,125

4. Cost of a chair = ` 475

Cost of 127 such chairs will be (` 127×475)

i.e. ` 60325   [Same steps as in part 2]

Chapter 6   Division

Assess Yourself 6.1

1. $12 \div 4 = 3$

$$4 \overline{)\, 12\,} (3$$
$$\underline{-12}$$
$$0$$

2. $8 \div 2 = 4$

$$2 \overline{)\, 8\,} (4$$
$$\underline{-\,8}$$
$$0$$

3. $6 \div 3 = 2$

$$3 \overline{)\, 6\,} (2$$
$$\underline{-\,6}$$
$$0$$

4. $10 \div 5 = 2$

$$5 \overline{)\, 10\,} (2$$
$$\underline{-10}$$
$$0$$

Assess Yourself 6.2

1.
$$9 \overline{)\, 37\,} (4$$
$$\underline{-36}$$
$$1$$
Q – 4, R – 1

2.
$$8 \overline{)\, 41\,} (5$$
$$\underline{-40}$$
$$1$$
Q – 5, R – 1

3.
$$5 \overline{)\, 18\,} (3$$
$$\underline{-15}$$
$$3$$
Q – 3, R – 3

4.
$$8 \overline{)\, 63\,} (7$$
$$\underline{-56}$$
$$7$$
Q – 7, R – 7

5.
$$6 \overline{)\, 41\,} (6$$
$$\underline{-36}$$
$$5$$
Q – 6, R – 5

6.
$$5 \overline{)\, 16\,} (3$$
$$\underline{-15}$$
$$1$$
Q – 3, R – 1

7.
$$6 \overline{)\, 23\,} (3$$
$$\underline{-18}$$
$$5$$
Q – 3, R – 5

8.
$$5 \overline{)\, 24\,} (4$$
$$\underline{-20}$$
$$4$$
Q – 4, R – 4

9.
$$5 \overline{)\, 50\,} (10$$
$$\underline{-50}$$
$$0$$
Q – 10, R – 0

1.
```
        4
100 ) 4 4 7
     -4 0 0
       4 7
```
Q – 4, R – 47

2.
```
       7
10 ) 7 5
    - 7 0
      5
```
Q – 7, R – 5

3.
```
         2
1000 ) 2 9 0 1
      - 2 0 0 0
          9 0 1
```
Q – 2, R – 901

4.
```
         5
1000 ) 5 0 0 9
      - 5 0 0 0
             9
```
Q – 5, R – 9

5.
```
      9 3
10 ) 9 3 0
    - 9 0 ↓
      3 0
    -  3 0
        0
```
Q – 93, R – 0

A. **1.**
```
       2 1
15 ) 3 2 6
    - 3 0 ↓
      2 6
    -  1 5
      1 1
```
Q – 21, R – 11

2.
```
       5 9
14 ) 8 3 6
    - 7 0 ↓
      1 3 6
    - 1 2 6
       1 0
```
Q – 59, R – 10

3.
```
       3 5
13 ) 4 5 8
    - 3 9 ↓
      6 8
    -  6 5
        3
```
Q – 35, R – 3

4.
```
       5 3
13 ) 6 9 7
    - 6 5 ↓
      4 7
    -  3 9
        8
```
Q – 53, R – 8

5.
```
       4 6
20 ) 9 2 1
    - 8 0 ↓
      1 2 1
    - 1 2 0
        1
```
Q – 46, R – 1

6.
```
       1 5 0
14 ) 2 1 0 6
    - 1 4 ↓
      7 0
    - 7 0 ↓
      0 0 6
    -     0
          6
```
Q – 150, R – 6

B. **1.** 616, 513, 3704, 2845, 28056 and 45412. In this case, a number is divisible by 2 if it is even.

616, 3704, 28056 and 45412 are even.

Hence, these numbers are divisible by 2.

2. 525, 6252, 4603, 3048, 10150 and 13680

A number is divisible by 3 if the sum of its digits is divisible by 3. Then, in these numbers,

i.e. $5 + 2 + 5 = \boxed{12}$ $\qquad$ [$3 \times 4 = 12$: i.e. divisible by 3]

$\quad\ 6 + 2 + 5 + 2 = \boxed{15}$ $\qquad$ [$3 \times 5 = 15$: i.e. divisible by 3]

$\quad\ 4 + 6 + 0 + 3 = \boxed{13}$ [$3\times4 = 12$, $3\times5=15$: i.e. its not divisible by 3]

$\quad\ 3 + 0 + 4 + 8 = \boxed{15}$

$\quad\ 1 + 0 + 1 + 5 + 0 = \boxed{7}$ $\qquad$ [As same step above]

$\quad\ 1 + 3 + 6 + 8 + 0 = \boxed{18}$

Hence, 525, 6252, 3048 and 13680 are divisible by 3.

3. 1024, 3066, 4716, 5328, 7072 and 9422

A number is divisible by 4, if the number formed by its last two digits is divisible by 4. Then, in these numbers,

i.e. 10<u>24</u>, its last two digits is divisible by 4.

$\qquad$ [$4 \times 6 = 24$, i.e. divisible by 4]

30<u>66</u>, its last two digits is not divisible by 4.

$\qquad$ [$4 \times 16 = 64$, $4 \times 17 = 68$, i.e. is not divisible by 4]

47<u>16</u>, its last two digits is divisible by 4. [$4 \times 4 = 16$, i.e. divisible by 4]

53<u>28</u>, its last two digits is divisible by 4. [$4 \times 7 = 28$, i.e. divisible by 4]

70<u>72</u>, its last two digits is divisible by 4. [$4 \times 18 = 72$, i.e. divisible by 4]

94<u>22</u>, its last two digits is not divisible by 4.

$\qquad$ [$4 \times 5 = 20$, $4 \times 6 = 24$, i.e. is not divisible by 4]

Hence, 1024, 4716, 5328 and 7072 are divisible by 4.

4. 570, 2044, 3010, 515, 7255 and 694721

A number is divisible by 5, if its last digit is 5 or 0.

Then, in numbers 570, 3010, 515, and 7255, last digit is 5 or 0.

Hence, these numbers are divisible by 5.

5. 369, 1254, 3422, 4536, 6147 and 5292

A number is divisible by 9, if the sum of its digits is divisible by 9.

Then, in these numbers, i.e.

$3 + 6 + 9 = \boxed{18}$ $\qquad$ [$9 \times 2 = 18$: is divisible by 9]

$1 + 2 + 5 + 4 = \boxed{12}$ $\qquad$ [$9 \times 1 = 9$, $9 \times 2 = 18$: is not divisible by 9]

$3 + 4 + 2 + 2 = \boxed{11}$ $\qquad$ [$9 \times 1 = 9$, $9 \times 2 = 18$: is not divisible by 9]

$4 + 5 + 3 + 6 = \boxed{18}$ $\qquad$ [$9 \times 2 = 18$: is divisible by 9]

$6 + 1 + 4 + 7 = \boxed{18}$ $\qquad$ [Same step as above]

$5 + 2 + 9 + 2 = \boxed{18}$ $\qquad$ [Same step as above]

Hence, 369, 4536, 6147 and 5292 are divisible by 9.

6. 355, 7010, 460, 8010, 990 and 235

A number is divisible by 10, if its last digit is 0.

Then in numbers 7010, 460, 8010 and 990, last digit is 0.
Hence, these numbers are divisible by 10.

Assess Yourself 6.5

A.
```
        8 0 0
  6 ) 4 8 0 0
    − 4 8
      0 0 0 0
    −       0
            0
```
Hence, an aeroplane
covers 800 km in
1 hour.

B.
```
         3 7 5
  10 ) 3 7 5 0
     − 3 0
       0 7 5
     − 0 7 0
           5 0
     −     5 0
           0 0
```
Hence, 375 chairs
are arranged in
1 group.

C.
```
          3 6 0
  12 ) 4 3 2 0
     − 3 6
         7 2
     −   7 2
         0 0
     −       0
             0
```
Hence, cost of
1 shirt is ` 360.

D.
```
        2 5 5
  14 ) 3 5 7 0
     − 2 8
         7 7
     −   7 0
           7 0
     −     7 0
           0
```
Hence, there are 255
plants in each row.

E.
```
        4 5 9
  3 ) 1 3 7 9
    − 1 2
        1 7
    −   1 5
          2 9
    −     2 7
          2
```
Hence, 459 boxes
have to be used and
2 pens will be left.

F.
```
        1 1 1
  9 ) 1 0 0 4
    −   9
        1 0
    −     9
          1 4
    −      9
           5
```
Hence, 111 rows will
be made and 5 chairs
will be left.

G.
```
        1 9 1
  6 ) 1 1 4 6
    −   6
        5 4
    −   5 4
        0 6
    −      6
           0
```
Hence, 191 people are sitting in each section.

⇨ Cumulative Revision

A. 1.
```
        2
  5 ) 1 0
    − 1 0
        0
```
Hence, each person get 2 crackers.

2.
```
        3
  5 ) 1 5
    − 1 5
        0
```
Hence, each student get 3 balls.

3.

$$
\begin{array}{r}
4 \\
3\overline{)} \\
\underline{-} \\
\end{array}
$$

Hence, 4 leaves on each page

4.

$$
\begin{array}{r}
4 \\
2\overline{)\,8} \\
\underline{-\,8} \\
0 \\
\end{array}
$$

Hence, 8 marbles in 4 cups.

B. **1.** 38,   **2.** 1,   **3.** 0   **4.** 1,   **5.** 56,   **6.** 150

C. **1.** 5,   **2.** 6,   **3.** 3,   **4.** 4

D. **1.**

$$
\begin{array}{r}
8 \\
10\overline{)\,8\ 8} \\
\underline{-\,8\ 0} \\
8 \\
\end{array}
$$

Q – 8, R – 8

2.

$$
\begin{array}{r}
1\ 9 \\
10\overline{)\,1\ 9\ 6} \\
\underline{-\,1\ 0\ \downarrow} \\
9\ 6 \\
\underline{-\ \ 9\ 0} \\
6 \\
\end{array}
$$

Q–19, R–6

3.

$$
\begin{array}{r}
3 \\
100\overline{)\,3\ 7\ 5} \\
\underline{-\,3\ 0\ 0} \\
7\ 5 \\
\end{array}
$$

Q–3, R–75

E. **1.**

$$
\begin{array}{r}
3\ 2\ 5 \\
13\overline{)\,4\ 2\ 3\ 6} \\
\underline{-\,3\ 9\ \downarrow} \\
3\ 3 \\
\underline{-\ \ 2\ 6\ \downarrow} \\
7\ 6 \\
\underline{-\ \ 6\ 5} \\
1\ 1 \\
\end{array}
$$

Q – 325, R – 11

2.

$$
\begin{array}{r}
1\ 1\ 4 \\
32\overline{)\,3\ 6\ 5\ 1} \\
\underline{-\,3\ 2\ \downarrow} \\
4\ 5 \\
\underline{-\ \ 3\ 2\ \downarrow} \\
1\ 3\ 1 \\
\underline{-\ \ 1\ 2\ 8} \\
3 \\
\end{array}
$$

Q – 114, R – 3

3.

$$
\begin{array}{r}
3\ 8\ 3 \\
16\overline{)\,6\ 1\ 4\ 2} \\
\underline{-\,4\ 8\ \downarrow} \\
1\ 3\ 4 \\
\underline{-\,1\ 2\ 8\ \downarrow} \\
6\ 2 \\
\underline{-\ \ 4\ 8} \\
1\ 4 \\
\end{array}
$$

Q – 383, R – 14

4.

$$
\begin{array}{r}
1\ 1\ 0 \\
17\overline{)\,1\ 8\ 7\ 0} \\
\underline{-\,1\ 7\ \downarrow} \\
1\ 7 \\
\underline{-\ \ 1\ 7\ \downarrow} \\
0\ 0 \\
\underline{-\ \ 0\ 0} \\
0 \\
\end{array}
$$

Q – 110, R – 0

F. **1.**

$$
\begin{array}{r}
6\ 6 \\
12\overline{)\,7\ 9\ 5} \\
\underline{-\,7\ 2\ \downarrow} \\
7\ 5 \\
\underline{-\ \ 7\ 2} \\
3 \\
\end{array}
$$

Q – 66, R – 3

Dividend
= D × Q + R
795 = 12 × 66 + 3
= 792 + 3 = 795

2.

$$
\begin{array}{r}
5\ 1 \\
11\overline{)\,5\ 6\ 3} \\
\underline{-\,5\ 5\ \downarrow} \\
1\ 3 \\
\underline{-\ \ 1\ 1} \\
2 \\
\end{array}
$$

Q – 51, R – 2

Dividend
= D × Q + R
563 = 11 × 51 + 2
= 561 + 2 = 563

Mathematics - 4

3.

$$
\begin{array}{r}
3\,1\,5 \\
13\overline{)\,4\,0\,9\,5} \\
-3\,9\downarrow \\
\hline
1\,9 \\
-\ \ 1\,3\downarrow \\
\hline
6\,5 \\
-\ \ \ \ 6\,5 \\
\hline
0
\end{array}
$$

Q – 315, R – 0
Dividend = D × Q + R
4095 = 13 × 315 + 0
= 4095 + 0 = 4095

4.

$$
\begin{array}{r}
8\,3\,2 \\
5\overline{)\,4\,1\,6\,4} \\
-4\,0\blacktriangledown \\
\hline
1\,6 \\
-\ \ 1\,5\blacktriangledown \\
\hline
1\,4 \\
-\ \ \ \ 1\,0 \\
\hline
4
\end{array}
$$

Q – 832, R – 4
Dividend = D × Q + R
4164 = 5 × 832 + 4
= 4160 + 4 = 4164

G. **1.** A number is divisible by 2, if it is even.
Hence, (a) 10, (b) 108, (e) 648 are divisible by 2.
A number is divisible by 4, if the number formed by its last two digits is divisible by 4.
Hence, (b) 108, (e) 648 are divisible by 4.
A number is divisible by 5, if its last digits is 5 or 0.
Hence, (a) 10, (c) 135 are divisible by 5.

2. A number is divisible by 3, if the sum of its digits is divisible by 3.
Hence, (a) 18, (b) 72, (c) 126, (d) 441 are divisible by 3.
A number is divisible by 9, if the sum of its digits is divisible by 9.
Hence, (a) 18, (b) 72, (c) 126, (d) 441 are divisible by 9.
A number is divisible by 11, if the difference between the sum of its digits in the odd places and the sum of the digits in the even places is equal to 0 or is a multiple of 11.
Hence, (e) 649 is divisible by 11.

3. A number is divisible by 30, if the number is divisible by 3 and 10.
Then,   660 ⟹ 660 ÷ 3 = 220, 660 ÷ 10 = 66
540 ⟹ 540 ÷ 3 = 180, 540 ÷ 10 = 54
610 ⟹ 610 ÷ 3 is not divisible by 3, 610 ÷ 10 = 61
Hence, 660 and 540 are divisible by 30.

H. **1.**

$$
\begin{array}{r}
2\,6\,3 \\
35\overline{)\,9\,2\,0\,5} \\
-7\,0\downarrow \\
\hline
2\,2\,0 \\
-2\,1\,0\downarrow \\
\hline
1\,0\,5 \\
-\ \ 1\,0\,5 \\
\hline
0
\end{array}
$$

Hence, 263 apples are packed in each box.

2.

$$
\begin{array}{r}
3\,2 \\
98\overline{)\,3\,1\,3\,6} \\
-2\,9\,4\blacktriangledown \\
\hline
1\,9\,6 \\
-\ \ 1\,9\,6 \\
\hline
0
\end{array}
$$

Hence, 32 bags are there in each stack.

3.

$$
\begin{array}{r}
1\ 0\ 2 \\
56\ \overline{)\ 5\ 7\ 1\ 2} \\
-5\ 6 \\
\hline
1\ 1\ 2 \\
-\ 1\ 1\ 2 \\
\hline
0
\end{array}
$$

Hence, 102 trees are planted in each row.

4.

$$
\begin{array}{r}
3\ 7\ 2 \\
12\ \overline{)\ 4\ 4\ 6\ 4} \\
-3\ 6 \\
\hline
8\ 6 \\
-\ 8\ 4 \\
\hline
2\ 4 \\
-\ 2\ 4 \\
\hline
0
\end{array}
$$

Hence, train covers distance in 1 hour is 372.   ●

Chapter 7   Factors and Multiples

Assess Yourself 7.1

A. **1.** 17, we can obtain 17 as $1 \times 17 = 17$, then its factors are 1 and 17. (1 and the number itself).
Hence, 17 is a prime number.

2. 15, we can obtain 15 as $3 \times 5 = 15$, $15 \times 1 = 15$ then, its factors are 1, 3, 5 and 15. (more than two).
Hence, 15 is a composite number.

3. 93, we can obtain 93 as $1 \times 93 = 93$, $3 \times 31 = 93$, then its factors are 1, 3, 31 and 93 (more than two).
Hence, 93 is a composite number.

4. 23, we can obtain 23 as $1 \times 23 = 23$.
Hence factors of 23 are 1 and 23. (1 and the number itself).
Hence, 23 is a prime number.

5. 27, we can obtain 27 as $1 \times 27 = 27$, $3 \times 9 = 27$ then, its factors are 1, 3, 9 and 27 (more than two)
Hence, 27 is a composite number.

6. 45, we can obtain 45 as $1 \times 45 = 45$, $3 \times 15 = 45$ and $9 \times 5 = 45$ then, its factors are 1, 3, 5, 9, 15 and 45 (more than two).
Hence, 45 is a composite number.

7. 29, we can obtain 29 as $1 \times 29 = 29$, then, its factors are 1 and 29 (1 and the number itself).
Hence, 29 is a prime number.

8. 53, we can obtain 53 as $1 \times 53 = 53$, then its factors are 1 and 53. (1 and the number itself)
Hence, 53 is a prime number.

B.

1.
$$
\begin{array}{r|r}
2 & 24 \\
\hline
2 & 12 \\
\hline
2 & 6 \\
\hline
3 & 3 \\
\hline
 & 1 \\
\end{array}
$$
$2 \times 2 \times 2 \times 3 = 24$

2.
$$
\begin{array}{r|r}
2 & 18 \\
\hline
3 & 9 \\
\hline
3 & 3 \\
\hline
 & 1 \\
\end{array}
$$
$2 \times 3 \times 3 = 18$

3.
$$
\begin{array}{r|r}
2 & 42 \\
\hline
3 & 21 \\
\hline
7 & 7 \\
\hline
 & 1 \\
\end{array}
$$
$2 \times 3 \times 7 = 42$

4.
$$
\begin{array}{r|r}
3 & 75 \\
\hline
5 & 25 \\
\hline
5 & 5 \\
\hline
 & 1 \\
\end{array}
$$
$3 \times 5 \times 5 = 75$

5.
$$
\begin{array}{r|r}
3 & 27 \\
\hline
3 & 9 \\
\hline
3 & 3 \\
\hline
 & 1 \\
\end{array}
$$
$3 \times 3 \times 3 = 27$

6.
$$
\begin{array}{r|r}
2 & 32 \\
\hline
2 & 16 \\
\hline
2 & 8 \\
\hline
2 & 4 \\
\hline
2 & 2 \\
\hline
 & 1 \\
\end{array}
$$
$2 \times 2 \times 2 \times 2 \times 2 = 32$

7.
$$
\begin{array}{r|r}
7 & 49 \\
\hline
7 & 7 \\
\hline
 & 1 \\
\end{array}
$$
$7 \times 7 = 49$

8.
$$
\begin{array}{r|r}
2 & 104 \\
\hline
2 & 52 \\
\hline
2 & 26 \\
\hline
13 & 13 \\
\hline
 & 1 \\
\end{array}
$$
$2 \times 2 \times 2 \times 13 = 104$

C.

1. $3 = 3 \times 1$ $9 = 3 \times 3$
Here common factor is 3. Hence, GCF of 3 and 9 is 3.

2. $4 = 4 \times 1$ $16 = 4 \times 4$
Here common factor is 4. Hence, GCF of 4 and 16 is 4.

3. $30 = 2 \times 3 \times 5$ $72 = 2 \times 2 \times 2 \times 3 \times 3$
Here common factor is 2×3. Hence GCF of 30 and 72 is 6.

4. $10 = 2 \times 5$ $15 = 3 \times 5$
Here common factor is 5. Hence, GCF of 10 and 15 is 5.

5. $21 = 3 \times 7 \times 1$ $25 = 5 \times 5 \times 1$
Here common factor is 1. Hence, GCF of 21 and 25 is 1.

6. $27 = 3 \times 3 \times 3$ $81 = 3 \times 3 \times 3 \times 3$
Here common factor is $3 \times 3 \times 3$. Hence, GCF of 27 and 81 is 27.

7. $18 = 2 \times 3 \times 3$ $42 = 2 \times 3 \times 7$
Here common factor is 2×3. Hence, GCF of 18 and 42 is 6.

8. $45 = 3 \times 3 \times 5$ $75 = 3 \times 5 \times 5$
Here common factors is 3×5. Hence, GCF of 45 and 75 is 15.

1.

2	3, 9, 8
2	3, 9, 4
2	3, 9, 2
3	3, 9, 1
3	1, 3, 1
	1, 1, 1

LCM of 3,9 and 8
$= 2 \times 2 \times 2 \times 3 \times 3$
$= 72$

2.

2	9, 54
3	9, 27
3	3, 9
3	1, 3
	1, 1

LCM of 9 and 54
$= 2 \times 3 \times 3 \times 3$
$= 54$

3.

2	2, 10
5	1, 5
	1, 1

LCM of 2 and 10
$= 2 \times 5$
$= 10$

4.

2	16, 20
2	8, 10
2	4, 5
2	2, 5
5	1, 5
	1, 1

LCM of 16 and 20
$= 2 \times 2 \times 2 \times 2 \times 5$
$= 80$

5.

2	15, 12
2	15, 6
3	15, 3
5	5, 1
	1, 1

LCM of 15 and 12
$= 2 \times 2 \times 3 \times 5$
$= 60$

6.

2	8, 36
2	4, 18
2	2, 9
3	1, 9
3	1, 3
	1, 1

LCM of 8 and 36
$= 2 \times 2 \times 2 \times 3 \times 3$
$= 72$

⇨ Cumulative Revision

A.

1.

3	75
5	25
	5

[Stop division at 5 as 5 is not a composite number.]
The divisors are 3, 5 and 5.
So, the prime factors of $75 = 3 \times 5 \times 5$.

2.

3	81
3	27
3	9
	3

[Stop division as 3 is not a composite number.]
The divisors are 3, 3, 3 and 3.
The prime factorisation of $81 = 3 \times 3 \times 3 \times 3$.

3.

5	65
	13

[Same step as above]
The divisors are 5 and 13.
The prime factorisation of $65 = 5 \times 13$.

4.

2	36
2	18
3	9
	3

[Stop division as 3 is not a composite number.]
The divisors are 2, 2, 3 and 3.
The prime factorisation of $36 = 2 \times 2 \times 3 \times 3$.

5.

```
2 | 126
3 |  63
3 |  21
   |   7
```

[Stop division as 7 is not a composite number.]
The divisors are 2, 3, 3 and 7.
The prime factorisation of $126 = 2 \times 3 \times 3 \times 7$.

6.

```
11 | 77
   |  7
```

[Same step as above]
The divisors are 11 and 7.
The prime factorisation of $77 = 11 \times 7$.

7.

```
2 | 104
2 |  52
2 |  26
  |  13
```

[Same step as above]
The divisors are 2, 2, 2 and 13.
The prime factorisation of $104 = 2 \times 2 \times 2 \times 13$.

8.

```
2 | 40
2 | 20
2 | 10
  |  5
```

[Same step as above]
The divisors are 2, 2, 2 and 5.
The prime factorisation of $40 = 2 \times 2 \times 2 \times 5$.

B. **1.** $45 = 3 \times 3 \times 5$ $\qquad$ $75 = 3 \times 5 \times 5$
Here common factors are 3×5. Hence, GCF of 45 and 75 is 15.

2. $36 = 2 \times 2 \times 3 \times 3$ $\qquad$ $90 = 2 \times 3 \times 3 \times 5$
Here common factors are $2 \times 3 \times 3$. Hence, GCF of 36 and 90 is 18.

3. $16 = 2 \times 2 \times 2 \times 2$ $\qquad$ $52 = 2 \times 2 \times 13$ $\qquad$ $76 = 2 \times 2 \times 19$
Here common factors are 2×2. Hence, GCF of 16, 52 and 76 is 4.

4. $9 = 3 \times 3,$ $\qquad$ $18 = 2 \times 3 \times 3$ $\qquad$ $42 = 2 \times 3 \times 7$
Here common factor is 3. Hence, GCF of 9, 18 and 42 is 3.

5. $14 = 2 \times 7$ $\qquad$ $35 = 5 \times 7$ $\qquad$ $84 = 2 \times 2 \times 3 \times 7$
Here common factor is 7. Hence, GCF of 14, 35 and 84 is 7.

6. $30 = 2 \times 3 \times 5$ $\qquad$ $72 = 2 \times 2 \times 2 \times 3 \times 3,$ $\qquad$ $144 = 2 \times 2 \times 2 \times 2 \times 3 \times 3$
Here common factors are 2×3. Hence, GCF of 30, 72 and 144 is 6.

C. **1.**

```
3 | 45, 63
3 | 15, 21
5 |  5,  7
7 |  1,  7
  |  1,  1
```

LCM of 45 and 63
$= 3 \times 3 \times 5 \times 7 = 315.$

2.

```
 2 | 22, 33, 44
 2 | 11, 33, 22
 3 | 11, 33, 11
11 | 11, 11, 11
   |  1,  1,  1
```

LCM of 22, 33 and 44
$= 2 \times 2 \times 3 \times 11 = 132.$

3.

```
2 | 12, 16, 36
2 |  6,  8, 18
2 |  3,  4,  9
2 |  3,  2,  9
3 |  3,  1,  9
3 |  1,  1,  3
  |  1,  1,  1
```

LCM of 12, 16 and 36
$= 2 \times 2 \times 2 \times 2 \times 3 \times 3 = 144.$

4.

2	8, 12, 16
2	4, 6, 8
2	2, 3, 4
2	1, 3, 2
3	1, 3, 1
	1, 1, 1

LCM of 8, 12 and 16
$= 2 \times 2 \times 2 \times 2 \times 3 = 48.$

5.

2	27, 30
3	27, 15
3	9, 5
3	3, 5
5	1, 5
	1, 1

$LCM = 2 \times 3 \times 3 \times 3 \times 5 = 270$

•

Chapter 8   Fractions

Assess Yourself 8.1

A. **1.** (a)   **2.** (c)   **3.** (b)

B. **1.** (c)   **2.** (c)   **3.** (c)

Assess Yourself 8.2

A. **1.** >   **2.** <   **3.** >   **4.** <

B. **1.** >   **2.** >   **3.** <   **4.** <

Assess Yourself 8.3

A. **1.** $\dfrac{1}{2} \times \dfrac{2}{2} = \dfrac{2}{4}$

[Multiply the denominator and numerator of the given fraction by 2]

$\dfrac{1}{2} \times \dfrac{3}{3} = \dfrac{3}{6}$

[Multiply the denominator and numerator of the given fraction by 3]

$\dfrac{1}{2} \times \dfrac{4}{4} = \dfrac{4}{8}$

[Multiply the denominator and numerator of the given fraction by 4]

Hence, $\dfrac{2}{4}, \dfrac{3}{6}$ and $\dfrac{4}{8}$ are equivalent fractions of $\dfrac{1}{2}$.

2. $\dfrac{2}{3} \times \dfrac{2}{2} = \dfrac{4}{6}$

[Multiply the denominator and numerator of the given fraction by 2]

$\dfrac{2}{3} \times \dfrac{3}{3} = \dfrac{6}{9}$

[Multiply the denominator and numerator of the given fraction by 3]

$$\frac{2}{3} \times \frac{4}{4} = \frac{8}{12}$$

[Multiply the denominator and numerator of the given fraction by 4]

Hence, $\frac{4}{6}, \frac{6}{9}$ and $\frac{8}{12}$ are equivalent fractions of $\frac{2}{3}$.

3. $\frac{3}{5} \times \frac{2}{2} = \frac{6}{10}$, $\frac{3}{5} \times \frac{3}{3} = \frac{9}{15}$, $\frac{3}{5} \times \frac{4}{4} = \frac{12}{20}$

Hence, $\frac{6}{10}, \frac{9}{15}$ and $\frac{12}{20}$ are equivalent fractions of $\frac{3}{5}$.

4. $\frac{5}{7} \times \frac{2}{2} = \frac{10}{14}$, $\frac{5}{7} \times \frac{3}{3} = \frac{15}{21}$, $\frac{5}{7} \times \frac{4}{4} = \frac{20}{28}$

Hence, $\frac{10}{14}, \frac{15}{21}$ and $\frac{20}{28}$ are equivalent fractions of $\frac{5}{7}$

B. 1. $\frac{18}{24} \div \frac{2}{2} = \frac{9}{12}$

[Divide the denominator and numerator of the given fraction by 2]

$\frac{18}{24} \div \frac{3}{3} = \frac{6}{8}$

[Divide the denominator and numerator of the given fraction by 3]

$\frac{18}{24} \div \frac{6}{6} = \frac{3}{4}$

[Divide the denominator and numerator of the given fraction by 6]

Hence, $\frac{9}{12}, \frac{6}{8}$ and $\frac{3}{4}$ are equivalent fractions of $\frac{18}{24}$.

2. $\frac{12}{24} \div \frac{2}{2} = \frac{6}{12}$

[Divide the denominator and numerator of the given fraction by 2]

$\frac{12}{24} \div \frac{3}{3} = \frac{4}{8}$

[Divide the denominator and numerator of the given fraction by 3]

$\frac{12}{24} \div \frac{4}{4} = \frac{3}{6}$

[Divide the denominator and numerator of the given fraction by 4]

Hence, $\frac{6}{12}, \frac{4}{8}$ and $\frac{3}{6}$ are equivalent fractions of $\frac{12}{24}$.

3. $\frac{30}{100} \div \frac{2}{2} = \frac{15}{50}$, $\frac{30}{100} \div \frac{5}{5} = \frac{6}{20}$, $\frac{30}{100} \div \frac{10}{10} = \frac{3}{10}$

Hence, $\frac{15}{50}, \frac{6}{20}$ and $\frac{3}{10}$ are equivalent fractions of $\frac{30}{100}$.

4. $\dfrac{16}{32} \div \dfrac{2}{2} = \dfrac{8}{16}$, $\qquad$ $\dfrac{16}{32} \div \dfrac{4}{4} = \dfrac{4}{8}$, $\qquad$ $\dfrac{16}{32} \div \dfrac{8}{8} = \dfrac{2}{4}$

Hence, $\dfrac{8}{16}, \dfrac{4}{8}$ and $\dfrac{2}{4}$ are equivalent fractions of $\dfrac{16}{32}$.

C. **1.** $\dfrac{1}{2} \times \dfrac{3}{3} = \dfrac{3}{\boxed{6}}$ $\qquad$ **2.** $\dfrac{3}{8} \times \dfrac{3}{3} = \dfrac{9}{\boxed{24}}$ $\qquad$ **3.** $\dfrac{7}{10} \times \dfrac{2}{2} = \dfrac{14}{\boxed{20}}$ $\qquad$ **4.** $\dfrac{3}{2} \times \dfrac{4}{4} = \dfrac{\boxed{12}}{8}$

D. **1.** $\dfrac{4}{6} \times \dfrac{3}{3} = \dfrac{12}{18} \neq \dfrac{12}{16}$ $\qquad\qquad$ Hence, it is not equivalent fraction.

2. $\dfrac{3}{7} \times \dfrac{1}{1} = \dfrac{3}{7} \neq \dfrac{4}{11}$ $\qquad\qquad$ Hence, it is not equivalent fraction.

3. $\dfrac{8}{20} \div \dfrac{4}{4} = \dfrac{2}{5}, \dfrac{10}{25} \div \dfrac{5}{5} = \dfrac{2}{5}$ [Use division]

$\qquad\qquad\qquad\qquad$ Hence, it is equivalent fraction : both are equals.

4. $\dfrac{3}{4} \times \dfrac{5}{5} = \dfrac{15}{20}$ $\qquad\qquad$ Hence, it is equivalent fraction.

$$\boxed{\text{Assess Yourself 8.4}}$$

A. **2.** $\dfrac{2}{5} + \dfrac{1}{5} = \dfrac{3}{5}$ $\qquad\qquad$ **3.** $\dfrac{2}{7} + \dfrac{3}{7} = \dfrac{5}{7}$

B. **1.** $\dfrac{2}{9} + \dfrac{3}{9} = \dfrac{5}{9}$ $\qquad\qquad$ **2.** $\dfrac{3}{7} + \dfrac{3}{7} = \dfrac{6}{7}$ $\qquad\qquad$ **3.** $\dfrac{2}{8} + \dfrac{3}{8} = \dfrac{5}{8}$

4. $\dfrac{3}{10} + \dfrac{4}{10} = \dfrac{7}{10}$ $\qquad$ **5.** $\dfrac{2}{10} + \dfrac{1}{10} + \dfrac{4}{10} = \dfrac{7}{10}$ $\qquad$ **6.** $\dfrac{1}{9} + \dfrac{2}{9} + \dfrac{4}{9} = \dfrac{7}{9}$

C. **1.** Dolly finished her homework in morning $= \dfrac{1}{3}$

Dolly finished her homework in evening $= \dfrac{1}{3}$

She finished total work $= \dfrac{1}{3} + \dfrac{1}{3} = \dfrac{2}{3}$

Hence, she finished homework $= \dfrac{2}{3}$.

2. Priti ate chocolate on a day $= \dfrac{1}{4}$

Priti ate chocolate on next day $= \dfrac{2}{4}$

Total chocolate she ate $= \dfrac{1}{4} + \dfrac{2}{4} = \dfrac{3}{4}$

Hence, she ate chocolate $= \dfrac{3}{4}$.

3. Mohit spent his pocket money on sweets $= \dfrac{1}{5}$

Mohit spent his pocket money on books $= \dfrac{2}{5}$

Total money he spent $= \dfrac{1}{5} + \dfrac{2}{5} = \dfrac{3}{5}$

Hence, he spent money $= \dfrac{3}{5}$.

4. Cherry spent her holiday in Shimla $= \dfrac{3}{10}$

Cherry spent her holiday in Chandigarh $= \dfrac{4}{10}$

Total holiday she spent $= \dfrac{3}{10} + \dfrac{4}{10} = \dfrac{7}{10}$

Hence, she spent holiday $= \dfrac{7}{10}$.

D. **1.** $\dfrac{5}{8} - \dfrac{3}{8} = \dfrac{5-3}{8} = \dfrac{2}{8}$ **2.** $\dfrac{9}{11} - \dfrac{3}{11} = \dfrac{9-3}{11} = \dfrac{6}{11}$

3. $\dfrac{7}{15} - \dfrac{4}{15} = \dfrac{7-4}{15} = \dfrac{3}{15}$ **4.** $\dfrac{8}{13} - \dfrac{5}{13} = \dfrac{8-5}{13} = \dfrac{3}{13}$

5. $\dfrac{7}{9} - \dfrac{5}{9} = \dfrac{7-5}{9} = \dfrac{2}{9}$ **6.** $\dfrac{9}{19} - \dfrac{5}{16} = \dfrac{9-5}{19} = \dfrac{4}{19}$

7. $\dfrac{9}{14} - \dfrac{4}{14} = \dfrac{9-4}{14} = \dfrac{5}{14}$

E. **1.** $\dfrac{7}{12} - \dfrac{3}{12} = \dfrac{7-3}{12} = \dfrac{4}{12}$ **2.** $\dfrac{13}{15} - \dfrac{5}{15} = \dfrac{13-5}{15} = \dfrac{8}{15}$

3. $\dfrac{8}{9} - \dfrac{7}{9} = \dfrac{8-7}{9} = \dfrac{1}{9}$ **4.** $\dfrac{9}{10} - \dfrac{6}{10} = \dfrac{9-6}{10} = \dfrac{3}{10}$

5. $\dfrac{5}{7} - \dfrac{2}{7} = \dfrac{5-2}{7} = \dfrac{3}{7}$ **6.** $\dfrac{9}{14} - \dfrac{4}{14} = \dfrac{9-4}{14} = \dfrac{5}{14}$

7. $\dfrac{5}{9} - \dfrac{4}{9} = \dfrac{5-4}{9} = \dfrac{1}{9}$ **8.** $\dfrac{8}{13} - \dfrac{4}{13} = \dfrac{8-4}{13} = \dfrac{4}{13}$

9. $\dfrac{15}{19} - \dfrac{11}{19} = \dfrac{15-11}{19} = \dfrac{4}{19}$

⇨ Cumulative Revision

A. **1.** $\dfrac{2}{9}$ [It is smaller fraction]   **2.** $\dfrac{5}{8}$ **3.** $\dfrac{4}{7}$ **4.** $\dfrac{5}{8}$

B. Arrange the fractions in descending order :

$$\dfrac{9}{10}, \dfrac{8}{10}, \dfrac{7}{10}, \dfrac{6}{10}, \dfrac{5}{10}, \dfrac{4}{10}, \dfrac{3}{10}, \dfrac{2}{10}, \dfrac{1}{10}$$

C. Arrange the fractions in ascending order :
$$\frac{7}{20},\frac{7}{15},\frac{7}{14},\frac{7}{13},\frac{7}{12},\frac{7}{11},\frac{7}{10},\frac{7}{9},\frac{7}{5}$$

$\left[\dfrac{7}{20}\right.$ is the smallest fraction in these, then we can arrange it in ascending order]

D. **1.** $\dfrac{1}{2}\times\dfrac{2}{2}=\dfrac{2}{4}$ $\qquad\left[\dfrac{2}{4}\text{ is the smallest equivalent fraction of }\dfrac{1}{2}\right]$

[By using multiplication : multiply the denominator and numerator of the $\dfrac{1}{2}$ by 2]

2. $\dfrac{2}{3}\times\dfrac{2}{2}=\dfrac{4}{6}$ $\qquad\left[\dfrac{4}{6}\text{ is the smallest equivalent fraction of }\dfrac{2}{3}\right]$

[By using multiplication : multiply the denominator and numerator of the $\dfrac{2}{3}\,by\,2$]

3. $\dfrac{3}{5}\times\dfrac{2}{2}=\dfrac{6}{10}$ $\qquad$ **4.** $\dfrac{11}{12}\times\dfrac{2}{2}=\dfrac{22}{24}$ $\qquad$ **5.** $\dfrac{7}{8}\times\dfrac{2}{2}=\dfrac{14}{16}$

E. **1.** $\dfrac{20}{100}\div\dfrac{2}{2}=\dfrac{10}{50}$

[Divide the denominator and numerator of the given fraction by 2]

$\dfrac{20}{100}\div\dfrac{4}{4}=\dfrac{5}{25}$

[Divide the denominator and numerator of the given fraction by 4]

$\dfrac{20}{100}\div\dfrac{5}{5}=\dfrac{4}{20}$

[Divide the denominator and numerator of the given fraction by 5]

Hence, $\dfrac{10}{50},\dfrac{5}{25}$ and $\dfrac{4}{20}$ are the equivalent fractions of $\dfrac{20}{100}$.

2. $\dfrac{16}{24}\div\dfrac{2}{2}=\dfrac{8}{12}$

[Divide the denominator and numerator of the given fraction by 2]

$\dfrac{16}{24}\div\dfrac{4}{4}=\dfrac{4}{6}$

[Divide the denominator and numerator of the given fraction by 4]

$\dfrac{16}{24}\div\dfrac{8}{8}=\dfrac{2}{3}$

[Divide the denominator and numerator of the given fraction by 8]

Hence, $\dfrac{8}{12},\dfrac{4}{6}$ and $\dfrac{2}{3}$ are equivalent fractions of $\dfrac{16}{24}$.

3. $\dfrac{8}{16}\div\dfrac{2}{2}=\dfrac{4}{8}$

[Divide the denominator and numerator of the given fraction by 2]

$$\frac{8}{16} \div \frac{4}{4} = \frac{2}{4}$$

[Divide the denominator and numerator of the given fraction by 4]

$$\frac{8}{16} \div \frac{8}{8} = \frac{1}{2}$$

[Divide the denominator and numerator of the given fraction by 8]

Hence, $\frac{4}{8}, \frac{2}{4}$ and $\frac{1}{2}$ are equivalent fractions of $\frac{8}{16}$.

F. **1.** $\frac{2}{5} + \frac{1}{5} + \frac{1}{5} = \frac{2+1+1}{5} = \frac{4}{5}$ **2.** $\frac{2}{9} + \frac{1}{9} + \frac{4}{9} = \frac{2+1+4}{9} = \frac{7}{9}$

3. $\frac{5}{14} + \frac{3}{14} + \frac{1}{14} = \frac{5+3+1}{14} = \frac{9}{14}$ **4.** $\frac{2}{15} + \frac{1}{15} + \frac{4}{15} = \frac{2+1+4}{15} = \frac{7}{15}$

G. **1.** $\frac{7}{9} - \frac{2}{9} = \frac{7-2}{9} = \frac{5}{9}$ **2.** $\frac{6}{13} - \frac{5}{13} = \frac{6-5}{13} = \frac{1}{13}$

3. $\frac{8}{17} - \frac{3}{17} = \frac{8-3}{17} = \frac{5}{17}$ **4.** $\frac{4}{15} - \frac{3}{15} = \frac{4-3}{15} = \frac{1}{15}$ ●

Chapter 9   Decimals

Assess Yourself 9.1

A. **1.** $\frac{8}{10} = 0.8$ **2.** $1\frac{3}{10} = \frac{13}{10} = 1.3$ **3.** $1\frac{1}{10} = \frac{11}{10} = 1.1$

B. **1.** $\frac{7}{10} = 0.7$ **2.** $1\frac{5}{10} = \frac{15}{10} = 1.5$ **3.** $2\frac{8}{10} = \frac{28}{10} = 2.8$

4. $\frac{5}{10} = 0.5$ **5.** $1\frac{3}{10} = \frac{13}{10} = 1.3$ **6.** $2\frac{4}{10} = \frac{24}{10} = 2.4$

7. $1\frac{6}{10} = \frac{16}{10} = 1.6$ **8.** $\frac{9}{10} = 0.9$

C.

	Fraction	Decimal
(a) red	$\frac{5}{10}$	0.5
(b) blue	$\frac{2}{10}$	0.2
(c) yellow	$\frac{3}{10}$	0.3

D. **1.** $\frac{2}{100} = 0.02$ **2.** $\frac{31}{100} = 0.31$

3. $\frac{100}{100} + \frac{55}{100} = 1.55$ **4.** $\frac{100}{100} + \frac{8}{100} = 1.08$

E. **1.** $\dfrac{7}{100} = 0.07$ **2.** $\dfrac{19}{100} = 0.19$ **3.** $1\dfrac{2}{100} = \dfrac{102}{100} = 1.02$

    4. $\dfrac{34}{100} = 0.34$ **5.** $\dfrac{5}{100} = 0.05$ **6.** $2\dfrac{4}{100} = \dfrac{204}{100} = 2.04$

    7. $1\dfrac{89}{100} = \dfrac{189}{100} = 1.89$ **8.** $3\dfrac{14}{100} = \dfrac{314}{100} = 3.14$

F. **1.** 0.3 is less than 0.35.   **2.** .60 is greater than 0.06.

    3. (a) $\dfrac{2}{10}$ [because 2 is at one place right to decimal place.]

       (b) $\dfrac{6}{100}$ (c) 2   (d) 0   (e) 0

<div align="center">

Assess Yourself 9.2

</div>

A. **1.** (a) Zero point six two four   (b) Thirteen point seven five   (c) Two hundred thirty four point eight five

    2. Twenty and four tenths = 20.4

       Expanded form : $= (2 \times 10) + (4 \times 0.1) = 20 + 0.4 = 20 + \dfrac{4}{10}$

<div align="center">

Assess Yourself 9.3

</div>

1. 0.8   [0.8 means 8 tenths]

    $= \dfrac{8}{10} = \dfrac{4}{5}$ Simplify form.

2. 0.28   [0.28 means 2 tenths and 8 hundredths]

    $= \dfrac{28}{100} = \dfrac{7}{25}$ Simplify form.

3. 0.125   [0.125 means 1 tenths, 2 hundredths and 5 thousandths]

    $= \dfrac{125}{1000} = \dfrac{1}{8}$ Simplify form.

4. 2.75   [2.75 means 2 ones and 7 tenths, 5 hundreths]

    $= 2\dfrac{75}{100} = 2\dfrac{3}{4}$ Simiplify form.

5. $5.12 = 5\dfrac{12}{100} = 5\dfrac{3}{25}$ **6.** $9.35 = 9\dfrac{35}{100} = 9\dfrac{7}{20}$

    [Same step as above]   [Same step as above]

<div align="center">

Assess Yourself 9.4

</div>

1. 0.7   **2.** 0.03   **3.** 0.23   **4.** 0.007   **5.** 0.088

6. 0.675   **7.** 0.12   **8.** 0.5   **9.** 0.075   **10.** 0.875

<div align="center">

Assess Yourself 9.5

</div>

Do it yourself.

1.
$$
\begin{array}{r}
0.6 \\
+\ 0.3 \\
\hline
0.9
\end{array}
$$

2. $\boxed{1}$
$$
\begin{array}{r}
2.5 \\
+\ 1.8 \\
\hline
4.3
\end{array}
$$

3.
$$
\begin{array}{r}
6.2 \\
-\ 5.1 \\
\hline
1.1
\end{array}
$$

4. $\boxed{4}\,\boxed{12}$
$$
\begin{array}{r}
5.2 \\
-\ 1.7 \\
\hline
3.5
\end{array}
$$

⇨ Cumulative Revision

A. **1.** 0.3   **2.** 1.7   **3.** 1.1   **4.** 2.1

    5. 1.3   **6.** 2.5   **7.** 7.2   **8.** 9.1

    9. $\dfrac{5}{10}$ = five tenths = 0.5   **10.** $\dfrac{7}{100}$ = 7 hundredths = 0.07

    11. $1\dfrac{5}{10} = \dfrac{15}{10} = 1 + 5$ tenths = 1.5   **12.** $3\dfrac{2}{10} = \dfrac{32}{10} = 3 + 2$ tenths = 3.2

B. **1.** 0.3 or 0.31, 0.31 is greater and place value of 3 in 0.**3** is 3 tenths.

    2. 1.5 or 0.95, 1.5 is greater and place value of 1 in **1**.5 is a one.

    3. 0.231 or 0.4, 0.4 is greater and place value of 3 in 0.2**3**1 is 3 hundredths.

    4. 0.931 or 1.0, 1.0 is greater and place value of 1 in 0.93**1** is 1 thousandths.

C. **1.** Five tenths = 0.5

    Expanded form = (5×0.1)

    2. Eleven and three tenths = 11.3

    Expanded form = $(1 \times 10) + (1 \times 1) + (3 \times 0.1)$

    3. Two and five hundredths = 2.05

    Expanded form = $(2 \times 1) + (0 \times 0.1) + (5 \times 0.01)$

    4. Thirty-four and sixteen hundredths = 34.16

    Expanded form = $(3 \times 10) + (4 \times 1) + (1 \times 0.1) + (6 \times 0.01)$

D. **1.** 0.135 = zero point one three five.   **2.** 3.25 = three point two five.

    3. 1.03 = one point zero three.   **4.** 3.005 = three point zero zero five.

    5. 0.8 = zero point eight.   **6.** 0.32 = zero point three and two.

E. **1.** $\dfrac{1}{2} \times \dfrac{5}{5} = \dfrac{5}{10} = 5$ tenths = 0.5

    2. $\dfrac{1}{4} \times \dfrac{25}{25} = \dfrac{25}{100} = 2$ tenths + 5 hundredths = 0.25

    3. $\dfrac{1}{8} \times \dfrac{125}{125} = \dfrac{125}{1000} = 1$ tenths + 2 hundredths + 5 thousandths = 0.125

    4. $\dfrac{1}{5} \times \dfrac{2}{2} = \dfrac{2}{10} = 2$ tenths = 0.2

    5. $\dfrac{3}{4} \times \dfrac{25}{25} = \dfrac{75}{100} = 7$ tenths + 5 hundredths = 0.75

F. **1.** $\dfrac{4}{10} = 0.4$ **2.** $\dfrac{7}{100} = 0.07$ **3.** $\dfrac{33}{100} = 0.33$

4. $\dfrac{865}{1000} = 0.865$ **5.** $\dfrac{44}{1000} = 0.044$ **6.** $\dfrac{3}{1000} = 0.003$

7. $1\dfrac{7}{10} = \dfrac{17}{10} = 1.7$ **8.** $3\dfrac{53}{100} = \dfrac{353}{100} = 3.53$

G. **1.**

$$\begin{array}{r} \boxed{1} \\ 2\ .\ 9 \\ +\ 4\ .\ 2 \\ \hline 7\ .\ 1 \end{array}$$

2.

$$\begin{array}{r} 9\ .\ 4 \\ -\ 8\ .\ 3 \\ \hline 1\ .\ 1 \end{array}$$

3.

$$\begin{array}{r} \boxed{1} \\ 1\ .\ 7 \\ +\ 4\ .\ 5 \\ \hline 6\ .\ 2 \end{array}$$

4.

$$\begin{array}{r} \boxed{6}\,\boxed{14} \\ 7\ .\ 4 \\ -\ 3\ .\ 9 \\ \hline 3\ .\ 5 \end{array}$$

5.

$$\begin{array}{r} \boxed{1} \\ 3\ .\ 6 \\ +\ 4\ .\ 5 \\ \hline 8\ .\ 1 \end{array}$$

Chapter 10 — Money

Assess Yourself 10.1

A. 75 paise can be written in rupee, i.e. 1 rupee = 100 paise

$$75 \text{ paise} = 75 \div 100 = 0.75$$

[100 has two zeroes, then two decimal places]

B. ` 26.50

(i) ` 20 + ` 5 + ` 1+ ` 0.50

twenty rupees + five rupees + one rupee + 50 paise

(ii) ` 10 + ` 10 + ` 5 + ` 1 + ` 0.50

ten rupees + ten rupees + five rupees + one rupee + 50 paise.

C. If someone gives me = ` 2.25 and the least number of coins in such way,

i.e.   ` 2 + 0.25 = 2.25

Hence, the least number of coins is two.

D. Sita has 1 rupee and she wants to change then

1 rupee has two coins of 50 paise.

$$50\,p + 50\,p = `\ 1$$

Her friend gives three 50-paise coins.

Hence, it is not a fair deal.

E. **1.** ` 10 + ` 20 + 50 p = ` 30.50      **2.** ` 100 + ` 50 + 50 p = ` 150.50

3. ` 500 + ` 50 + 50 p + 50 p = ` 551

Assess Yourself 10.2

1. If cost of 1 pencil = ` 0.75 then Dolly buys pencil in ` 2.00

$$= `\ 2.00 - `\ 0.75 = `\ 1.25$$

Dolly should receive one rupee and twenty-five paise or ` 1.25

2. If cost of a chocolate = ` 2.25

Then, Mohan buys chocolate in ` 5.00

$$= `\ 5.00 - `\ 2.25 = `\ 2.75$$

Mohan should receive two rupees and seventy-five paise or ` 2.75

3. If cost of an ice cream = ` 7.50

Then, Manu buys an ice cream in ` 10.00

= ` 10.00 – ` 7.50 = ` 2.50

Hence, Manu should receive two rupees and fifty paise or ` 2.50

4. If cost of an exercise book = ` 5.50

Then, Ankit buys an exercise book in ` 10.00

= ` 10.00 – ` 5.50 = ` 4.50

Hence, Ankit should receive four rupees and fifty paise or ` 4.50.

Assess Yourself 10.3

A.

1.
```
        1
`  0 . 1 5
+  8 . 3 5
   8 . 5 0
```

2.
```
`  6 . 2 5
+  5 . 5 0
 1 1 . 7 5
```

3.
```
        1
`  8 . 9 5
+  7 . 5 0
 1 6 . 4 5
```

4.
```
    1   1
`   2 . 5 7
+   5 . 8 4
    8 . 4 1
```

5.
```
    1   1
`   4 . 3 5
+   0 . 9 7
    5 . 3 2
```

6.
```
  1     1
  5 . 4 5
+ 3 . 5 5
  9 . 0 0
```

7.
```
    1   1
`   9 . 0 9
+   3 . 9 5
  1 3 . 0 4
```

8.
```
      1
`   6 . 7 0
+   2 . 8 5
    9 . 5 5
```

B.

1.
```
    6   12
`   7̶ . 2̶ 5
–   6 . 9 0
    0 . 3 5
```

2.
```
  0  11   10
`  1̶ 2̶ . 0̶ 0
–     4 . 7 0
      7 . 3 0
```

3.
```
       3    18 15
`   2 4̶ . 9̶ 5̶
–   1 2 . 9 9
  1 1 . 9 6
```

4.
```
`   6 . 7 5
–   2 . 5 5
    4 . 2 0
```

5.
```
    7   12
`   8̶ . 2̶ 5
–   4 . 3 0
    3 . 9 5
```

6.
```
       2 12
`   3̶ 2̶ . 7 5
–   2 3 . 5 5
        9 . 2 0
```

7.
```
  0 9   9 10
` 1̶ 0̶ . 0̶ 0̶
–   6 . 1 5
    3 . 8 5
```

8.
```
      0    10
`   7 1̶ . 0̶ 0
–   1 0 . 5 0
    6 0 . 5 0
```

1. (a) The entry fee per car = ` 5.00
Then, 5 cars entrance fee will be = ` 5.00 × ` 5 = ` 25.00
(b) The cost of 5 cars to take drive = ` 25.00
and the cost of a bus to take drive = ` 30.00
Difference = ` 30.00 – ` 25.00 = ` 5.00
Hence five rupees is more to take the bus than cars.

2. If 3 people of family going National Park by car = ` 5.00
If 3 people are going by bicycle = 3 × 2.00 = ` 6.00
Hence, the entrance fee for bike is more than car.

3. The cost of 3 cars to drive in = 3 × 5 = ` 15
The cost of 1 bus to drive in = 1 × 30 = ` 30
Hence, the total cost = 15 + 30 = ` 45

⇨ Cumultive Revision

A.
1. ` 8.25 = Eight rupees and twenty-five paise.
2. ` 7.50 = Seven rupees and fifty paise.
3. ` 20.75 = Twenty rupees and seventy-five paise.
4. ` 110.60 = One hundred ten rupees and sixty paise.
5. ` 0.45 = Forty-five paise
6. ` 0.75 = Seventy-five paise
7. ` 52.10 = Fifty-two rupees and ten paise.
8. ` 0.05 = Five paise.

B.

1.
```
    ` 5 .  3 0
  + ` 8 .  0 5
  ` 1 3 .  3 5
```

2.
```
     1 1   1
    ` 3 2 . 4 5
  + ` 1 7 . 6 5
    ` 5 0 . 1 0
```

3.
```
              1
    ` 1 0 . 2 5
  + `  1 . 0 5
    ` 1 1 . 3 0
```

4.
```
    ` 2 4 . 1 0
  + ` 1 3 . 4 0
    ` 3 7 . 5 0
```

5.
```
      2   1
    ` 3 1 . 8 5
    ` 4 4 . 6 5
  + `  0 . 7 5
    ` 7 7 . 2 5
```

6.
```
     1 1   1
    ` 6 7 . 2 5
  + ` 3 2 . 8 5
    ` 2 3 . 4 0
    ` 1 2 3 . 5 0
```

7.
```
     1 1
    ` 1 4 . 4 0
    `  5 . 7 0
  + ` 2 1 . 4 0
    ` 4 1 . 5 0
```

8.
```
     1 1
    ` 1 9 . 7 5
    ` 2 7 . 7 0
  + ` 4 2 . 5 0
    ` 8 9 . 9 5
```

C. 1.

```
      ` 7 . 8 5
    – ` 4 . 5 0
    ——————————
      ` 3 . 3 5
```

2.

```
         4   14 10
      ` 1 5 . 5 0
    – ` 1 4 . 7 5
    ——————————
      `   0 . 7 5
```

3.

```
      ` 8 . 7 5
    – ` 3 . 5 0
    ——————————
      ` 5 . 2 5
```

4.

```
       1   15
      ` 2 2 . 5 0
    – ` 2 0 . 6 0
    ——————————
      `   1 . 9 0
```

5.

```
       8 9   12
      ` 9 0 . 2 5
    – ` 2 5 . 5 0
    ——————————
      ` 6 4 . 7 5
```

6.

```
       2     12
      ` 9 3 . 2 5
    – ` 8 0 . 4 5
    ——————————
      ` 1 2 . 8 0
```

7.

```
       0 9 9   10
      ` 1 0 0 . 0 0
    – `   7 5 . 5 0
    ——————————
      `   2 4 . 5 0
```

8.

```
       4 10   14 10
      ` 5 1 . 5 0
    – ` 2 2 . 7 5
    ——————————
      ` 2 8 . 7 5
```

D. 1. Ritu bought pen = ` 4.25
Ritu bought chocolate = ` 32.85
Total = ` 4.25 + ` 32.85
Hence, total cost is ` 37.10.

```
       1   1
      ` 3 2 . 8 5
    + `   4 . 2 5
    ——————————
      ` 3 7 . 1 0
```

2. Rajat have money = ` 15.75
His brother gave him money = ` 14.50
Total = ` 15.75 + ` 14.50
Hence, total money Rajat have = ` 30.25

```
       1 1
      ` 1 5 . 7 5
    + ` 1 4 . 5 0
    ——————————
      ` 3 0 . 2 5
```

3. Anita bought a bottle of jam = ` 44.60
She gave = ` 500.00
Then, she receive change will be
$$= ` 500.00 – ` 44.60$$
Hence, Anita should receive = ` 455.40.

```
       4 9 9   10
      ` 5 0 0 . 0 0
    – `   4 4 . 6 0
    ——————————
      ` 4 5 5 . 4 0
```

●

Chapter 11   Length, Mass and Capacity

Assess Yourself 11.1

Do it yourself.

Assess Yourself 11.2

A. 1. 513 mm = 513 ÷ 10 cm = 51.3 cm $[\because 1\,mm = \dfrac{1}{10}\,cm]$

2. 5 cm = 5 × 10 mm   = 50 mm $[\because 1\ cm = 10\ mm]$

3. 8.2 km = 8.2 × 1000 m = 8200 m $[\because\ 1\ \text{km} = 1000\ \text{m}\ ]$

4. 75 mm = 75 ÷ 10 cm = 7.5 cm $[\because 1\ \text{mm} = \dfrac{1}{10}\text{cm}\ ]$

  7.5 cm = 7.5 ÷ 100 m = 0.075 m $[\because 1\ \text{cm} = \dfrac{1}{100}\ \text{m}\ ]$

5. 85 mm = 85 ÷ 10 cm = 8.5 cm $[\because 1\ \text{mm} = \dfrac{1}{10}\ \text{cm}\ ]$

6. 3.8 cm = 3.8 × 10 mm = 38 mm $[\because 1\ \text{cm} = 10\ \text{mm}]$

B. **1.** We know that

  1 m = 100 cm *or* 100 cm = 1 m

  590 cm = 590 ÷ 100 = 5.9 m

  Neetu is correct.

2. Change 5 km to m $[\because 1\ \text{km} = 1000\ \text{m}]$

  5 km = 5 × 1000 m = 5,000 m

  Change 700 km to m

  700 km = 700 × 1000 m = 700,000 m

3. cm in 0.82 m

  0.82 m = 0.82 × 100 cm = 82 cm $[\because 1\ \text{m} = 100\ \text{cm}]$

4. (a) 4000 m to km

  i.e. 4000 m = 4000 ÷ 1000 km = 4 km. $[\because 1\ \text{m} = \dfrac{1}{1000}\ \text{km}\ ]$

  (b) 500 cm to m.

  500 cm = 500 ÷ 100 = 5 m $[\because 1\ \text{cm} = \dfrac{1}{100}\ \text{m}\ ]$

  (c) 12000 mm to m and cm.

  12000 mm = 12000 ÷ 10 cm = 1200 cm

  1200 cm = 1200 ÷ 100 m = 12 m

  $[\because 1\text{mm} = \dfrac{1}{10}\ \text{cm},\ 1\ \text{cm} = \dfrac{1}{100}\ \text{m}]$

  (d) 2 km to m

  2 km = 2 × 1000 m = 2000 m $[\because 1\ \text{km} = 1000\ \text{m}\ ]$

  (e) 15m to cm.

  15m = 15 × 100 cm = 1500 cm $[\because 1\ \text{m} = 100\ \text{cm}\ ]$

  (f) 1 km and 300 m to m.

  1 km = 1 × 1000 m = 1,000 $[\because 1\ \text{km} = 1000\ \text{m}]$

  1,000 m + 300 m = 1300 m

  (g) 2.6 m to cm. $[\because 1\ \text{m} = 100\ \text{cm}\ ]$

  2.6 m = 2.6 × 100 cm = 260 cm

$\boxed{\text{Assess Yourself 11.3}}$

A. **1.** 8.43 kg = 8.43 × 1000 g = 8430 g $[\because 1\ \text{kg} = 1000\ \text{g}\ ]$

2. $500 \text{ mg} = 500 \div 1000 \text{ g} = 0.5$ $\left[\because 1 \text{ mg} = \dfrac{1}{1000} \text{ g} \right]$

3. $23.5 \text{g} = 23.5 \times 1000 \text{ mg} = 23500 \text{ mg}$ $[\because 1 \text{ g} = 1000 \text{ mg}]$

4. $9014 \text{ g} = 9014 \div 1000 \text{ kg} = 9.014 \text{ kg}$ $\left[\because 1 \text{ g} = \dfrac{1}{1000} \text{ kg} \right]$

5. $1900 \text{ mg} = 1900 \div 1000 \text{ g} = 1.9 \text{ g}$ $\left[\because 1 \text{ mg} = \dfrac{1}{1000} \text{ g} \right]$

6. $8.2 \text{ g} = 8.2 \times 1000 \text{ mg} = 8200 \text{ mg}$ $[\because 1 \text{ g} = 1000 \text{ mg}]$

B. (a) 30 kg (b) 1 g (c) 10 kg

<div align="center">

Assess Yourself 11.4

</div>

A. **1.** $1\,l = 1 \times 1000 \text{ ml} = 1{,}000 \text{ ml}$ $[\because 1\,l = 1000 \text{ ml}]$
2. $6\,l = 6 \times 1000 = 6000 \text{ ml}$ $[\because 1\,l = 1000 \text{ ml}]$
3. $2\,l = 2 \times 1000 \text{ ml} = 2000 \text{ ml}$ $[\because 1\,l = 1000 \text{ ml}]$

4. $3000 \text{ ml} = 3000 \div 1000\,l = 3l$ $\left[\because 1 \text{ ml} = \dfrac{1}{1000}\,l \right]$

5. $5000 \text{ ml} = 5000 \div 1000\,l = 5l$ $\left[\because 1 \text{ ml} = \dfrac{1}{1000}\,l \right]$

6. $8000 \text{ ml} = 8000 \div 1000\,l = 8l$ $\left[\because 1 \text{ ml} = \dfrac{1}{1000}\,l \right]$

7. $3\,l + 475 \text{ ml} = 3 \times 1000 + 475 \text{ ml}$
          $= 3000 + 475 = 3475 \text{ ml}$ $[\because 1\,l = 1000 \text{ ml}]$
8. $5\,l + 60 \text{ ml} = 5 \times 1000 + 60 \text{ ml}$
          $= 5000 + 60 = 5060 \text{ ml}$ $[\because 1\,l = 1000 \text{ ml}]$
9. $7\,l + 5 \text{ ml} = 7 \times 1000 + 5 \text{ ml}$
          $= 7000 + 5 = 7005 \text{ ml}$ $[\because 1\,l = 1000 \text{ ml}]$

B. **1.** (a) ml (b) ml (c) l (d) ml

<div align="center">

Assess Yourself 11.5

</div>

A. **1.**
```
    ¹  ¹
    8 . 3  cm
  1 0 . 5  cm
+   5 . 2  cm
  ─────────────
  2 4 . 0  cm
```

2.
```
   ²¹   ¹
   2 7 . 3 2 m
   4 5 . 5 8 m
 +  8 . 6 0 m
 ─────────────
   8 1 . 5 0 m
```

3.
```
  ¹¹   ¹
     5 . 4 8 5 km
  1 5 . 7 5 0 km
 +  7 . 6 4 0 km
 ──────────────────
  2 8 . 8 7 5 km
```

4.
```
  ²²      ¹
  3 2 kg  4 0 0 g
  2 8 kg  9 5 0 g
+  9 kg  7 5 0 g
────────────────────
  7 1 kg  1 0 0 g
```

5.
```
   ¹¹   ¹
   4 5 kg 3 2 5 g
   1 9 kg 0 5 0 g
+        7 5 0 g
──────────────────
   6 5 kg 1 2 5 g
```

6.
```
    ¹      ²
    6 l  4 3 8 ml
         9 2 5 ml
+   3 l  3 2 7 ml
──────────────────
   10 l  6 9 0 ml
```

7. ☐ | ☐☐
753 ml
528 ml
+ 27 *l* 085 ml
——————
28 *l* 366 ml

8. ☐☐ | ☐
35 *l* 250 ml
10 *l* 500 ml
+ 14 *l* 750 ml
——————
60 *l* 500 ml

B.

1. ☐ | ☐☐
3 3 . 5 9 9 kg
− 2 9 . 2 5 0 kg
——————
4 . 3 4 9 kg

2. ☐☐ | ☐☐☐
5 2 . 0 5 0 kg
− 4 5 . 6 2 5 kg
——————
0 6 . 4 2 5 kg

3. ☐ | ☐☐
2 5 . 7 5 0 km
− 2 2 . 8 5 0 km
——————
2 . 9 0 0 km

4. ☐ | ☐☐☐
3 9 . 7 5 0 km
− 3 8 . 9 2 5 km
——————
0 . 8 2 5 km

5. ☐ | ☐☐☐
6 5 *l* 2 5 0 ml
− 5 2 *l* 7 8 3 ml
——————
1 2 *l* 4 6 7 ml

6. ☐☐☐ | ☐☐
1 2 0 kg 2 0 0 g
− 8 5 kg 5 0 0 g
——————
3 4 kg 7 0 0 g

7. ☐ | ☐☐☐
6 2 *l* 3 4 5 ml
− 3 0 *l* 6 5 9 ml
——————
31 *l* 6 8 6 ml

8. ☐☐☐ | ☐☐
1 1 2 km 3 5 5 m
− 9 3 km 8 7 5 m
——————
1 8 km 4 8 0 m

C. Do it yourself.

⇨ Cumulative Revision

A.

1. (a) mm (b) cm (c) m or cm (d) km

2. (c) [6.0 cm is the best measurement line segment of AB]

3. (c) [kg is the different measure in these]

4. (b) [it is best measurement of flag pole]

5. (a) 135 m = 135 ÷ 1000 km = 0.135 km $[\because 1\ m = \frac{1}{1000}\ km]$

(b) 26.4 cm = 26.4 × 10 mm = 264 $[\because 1\ cm = 10\ mm]$

(c) 5 cm = 5 × 10 mm = 50 mm $[\because 1\ cm = 10\ mm]$

(d) 52 mm = 52 ÷ 10 cm = 5.2 cm $[\because 1\ mm = \frac{1}{10}\ cm]$

B.

1. (a) For measurement of a cricket ball use g.

(b) For measurement of an elephant use kg tonne.

(c) For measurement of pack of apples use kg.

(d) For measurement of a dozen bananas use kg.

C.

1. (b) 0.5 kg it is the best measurement of mass of a shoe.

2. 1.7 kg = 1.7 × 1000 g = 1700 g $[\because 1\ kg = 1000\ g]$
and = 39 g
1700 is larger than 39 g.
∴ 1.7 kg box is larger.

3. (c) 500 mg, it should be the mass of the tablet.

4. (c) If kavita has 3 books in her bag, then the mass of the books is 6 kg.

5. (a) 735 g = 735 ÷ 1000 kg = 0.735 kg $\quad[\because 1\ g = \dfrac{1}{1000}\ kg]$

(b) 8.2 = 8.2 × 1000 mg = 8200 mg $\quad[\because 1\ g = 1000\ mg]$

(c) 1900 mg = 1900 ÷ 1000 g = 1.9 g $\quad[\because 1\ mg = \dfrac{1}{1000}\ g]$

1.9 g = 1.9 ÷ 1000 kg = 0.0019 kg $\quad[\because 1\ g = \dfrac{1}{1000}\ kg]$

(d) 5000 mg = 5000 ÷ 1000 g = 5 g $\quad[\because 1\ mg = \dfrac{1}{1000}\ g]$

D. **1.** (a) Raindrop is measured in ml.

(b) Ink in a ballpoint pen is measured in ml.

(c) Can of Cola is measured in ml.

(d) Tablespoon is measured in ml.

2. (b) 250 ml, it is the best measurement of capacity of a glass of milk.

3. A container has juice = 1.5 l

$\qquad\qquad = 1.5 \times 1000$ ml

$\qquad\qquad = 1500$ ml $\qquad\qquad[\because 1l = 1000$ ml $]$

Second container has juice = 355 ml

Then, 1500 ml is greater than 355 ml.

Second container has less juice.

4. Savita has milk for mixture = 6.3 l

and Savita has water for mixture = 4.9 l

Total mixture = 6.3 l + 4.9 l

Hence, total mixture she has = 11.2 l

$$\begin{array}{r}\boxed{1}\\ 6\,.\,3\ l\\ +\ \ 4\,.\,9\ l\\ \hline 1\,1\,.\,2\ l\end{array}$$

5. (a) 300 ml = 300 ÷ 1000l = 0.3 l $\qquad[\because 1ml = \dfrac{1}{1000}\ l]$

(b) 1.5 l = 1.5 × 1000 ml = 1500 ml $\qquad[\because 1l = 1000$ ml $]$

(c) 1 l = 1000 ml

(d) 3000 ml = 3000 ÷ 1000 l = 3 l $\qquad[\because 1$ ml $= \dfrac{1}{1000}\ l\ ]$ ●

Chapter 12   Geometry

Assess Yourself 12.1

Given in the answer sheet.

Assess Yourself 12.2

Given in the answer sheet.

Do it yourself.

$\boxed{\text{Assess Yourself 12.4}}$

A. **1.** (iv) its figure is triangle   **2.** (ii) its figure is square.
     3. (iii) its figure is rectangle.   **4.** (v) its figure is parallelogram.
     5. (i) its figure is circle.
B.   From 1 to 5 given in the answer sheet.
C. **1.** Square, its four sides are equal, then it is a square.
     2. Triangle, it has three sides, then it is a triangle.
     3. Rectangle, its opposite sides are equal and parallel, then it is a rectangle.
     4. Circle, it has no sides but its surface is curved line.
     5. Parallelogram, its opposite sides are equal, parallel and opposite angles are equal.

$\boxed{\text{Assess Yourself 12.5}}$

Given in the answer sheet.

⇨ Cumulative Revision

A.   From 1 to 4 given in the answer sheet.
B. **1.** Triangle   **2.** Pentagon   **3.** Rectangle
     4. Hexagon   **5.** Octagon   **6.** Decagon
C. **1.** False   **2.** True   **3.** True   **4.** False
     5. False   **6.** False   **7.** True.
D. **1.** Cuboid, it has 8 vertices.
     2. Cube, it has 6 square faces.
     3. Sphere, it has 1 curved face.
     4. Cone, it has 1 flat, 1 curved faces.
     5. Cylinder, it has 2 flat, 1 curved faces.   ●

Chapter 13   Perimeter and Area

$\boxed{\text{Assess Yourself 13.1}}$

A. **1.** Given, Perimeter of square = 20 units
     Then each side of square will be
     We know that,
         Perimeter of square $= 4 \times$ length of side
                 $20 = 4 \times$ length of side
     ∴   length of side $= 20 \div 4 = 5$ units.
     Hence, length of each side is 5 units.

$$\begin{array}{r} 5 \\ 4\overline{)\,20} \\ -20 \\ \hline 0 \end{array}$$

2. Given perimeter of equilateral triangle = 21 cm.
then each side of triangle will be
We know that,
Perimeter of an equilateral triangle = 3 × length of side
$$21 = 3 \times \text{side}$$
$$\text{side} = 21 \div 3$$
$$= 7 \text{ cm.}$$
Hence, length of each side is 7 cm.

$$\begin{array}{r} 7 \\ 3\overline{)\,21} \\ -21 \\ \hline 0 \end{array}$$

3. Given one side of square = 9 units
then perimeter of square will be
We know that,
$$\text{Perimeter of square} = 4 \times \text{side}$$
$$= 4 \times 9 = 36 \text{ units.}$$

B. **1.** (a) Given figure is a square,
side of the square = 5 cm
$$\text{Perimeter of square} = 4 \times \text{side}$$
$$= 4 \times 5$$
$$= 20 \text{ cm}$$

(b) The given figure is a polygon.
Perimeter is equal to sum of all sides
∴ Perimeter = 3 + 3 + 6 + 4 + 4 + 6 = 26 m

(c) The figure is a quadrilateral.
So perimeter is sum of all sides
So Perimeter = 7 + 6 + 10 + 5 = 28 m.

(d) Given figure is triangle,
each side of triangle = 5 units
$$\text{Perimeter of triangle} = 3 \times \text{side}$$
$$= 3 \times 5 \text{ units} = 15 \text{ units}$$
Perimeter of triangle = 15 units

(e) Given figure is square,
each side of square = 6 cm
$$\text{Perimeter of square} = 4 \times \text{side}$$
$$= 4 \times 6 \text{ cm} = 24 \text{ cm}$$
Perimeter of square = 24 cm

(f) Given, In this figure has two figures of square,
In 1st figure,
each side of square = 6 cm
$$\text{Perimeter of square} = 4 \times \text{side}$$
$$= 4 \times 6 \text{ cm}$$
$$= 24 \text{ cm}$$
∴ Perimeter of square = 24 cm
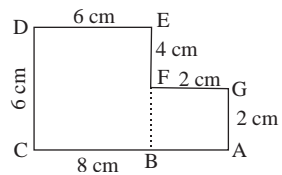
In 2nd figure,

The each side of square $= 2$ cm

Perimeter of square $= 4 \times$ side

$= 4 \times 2$ cm $= 8$ cm

and BF line segment is common in both figures. So, its length 2 cm is subtracted from both figures.

Total perimeter of figure $= (24 + 8)$ cm $- (2 + 2)$ cm

$= 32$ cm $- 4$ cm $= 28$ cm.

2. Given, perimeter of rectangle $= 12$ units.

We know that,

Perimeter of rectangle $= 2$ (length + breadth)

$12 = 2$ (l+b)

(l+b) $= 12 \div 2 = 6$ units

Length of rectangle $= 4$ units

and   Breadth of rectangle $= 2$ units.

$$\begin{array}{r} 6 \\ 2\overline{)\,12} \\ -12 \\ \hline 0 \end{array}$$

Assess Yourself 13.2

1.   (a) 6 square units in this figure.

(b) 25 square units in this figure.

(c) 17 square units in this figure.

(d) About 8 square units in this figure.

(e) About 23 square units in this figure.

(f) 19 square units.

2.   Let the playground shape in rectangle.

Length of rectangle $= 20$ m

and Breadth of rectangle $= 15$ m

Area of rectangle $= l \times b$

$= 20 \times 15$ (m $\times$ m)

$= 300$ m^2

Hence, area of playground is 300 square metres.   ●

Chapter 14   Time

Assess Yourself 14.1

1.   (a) In 1st way; seven o'clock and 2nd way 7:00

(b) In 1st way : Eleven o'clock and 2nd way 11:00

(c) In 1st way; five minutes past twelve and 2nd way 12:05

(d) In 1st way; Forty-seven minutes past eight and 2nd way 8:47

2.   Minutes left in 4 o'clock $= 3:60 = 3:55$

$= 5$ minutes

Hence, 5 minutes left to be 4'o clock

3. If my class starts = 3:45 and I arrived = 3:32

$$= 3:45 - 3:32$$
$$= 0:13 \text{ minutes.}$$

Hence, arrived early in class before 13 mintues.

4. If in 1 minutes it will be 2:00

Then, now time will be = 1:60 – 0.01

$$= 1:59 \qquad [\because 1 \text{ minute} = 60 \text{ seconds}$$
$$\text{and } 1 \text{ hour} = 60 \text{ mintues}]$$

Hence, now time is 1:59

Assess Yourself 14.2

1. (a) Ist way quarter past six and 2nd way 6:15
   (b) Ist way half past eleven and 2nd way 11:30
   (c) Ist way quarter to six and 2nd way 5:45

2. If we added 15 minutes in 7:15 = 7:30
   and we subtracted 15 minutes in 7:45

$$= 7:45 - 0:15 = 7:30$$

Hence, 7:30 is the nearest time between 7:15 and 7:45.

3. In one day clock shows 3:15 two times.
   One time am and second time pm.

4. At quarter to two, the minute hand pointing to 9.

Assess Yourself 14.3

1. Mohan's family left picnic spot at = 9:00
   and time in drove = 1 hr 10 min
   Time they arrive will be :

$$= 9 \text{ h } 0 \text{ min} + 1 \text{ hr } 10 \text{ min}$$

Hence, they arrive at 10:10

$$\begin{array}{r} 9 \text{ h} : 00 \text{ min} \\ + \ 1 \text{ h} : 10 \text{ min} \\ \hline 10 \text{ h} : 10 \text{ min} \end{array}$$

2. Kavita starts homework at = 5:00
   and she ends homework at = 5:45
   Then, she do homework in = 5:45 – 5:00
   Hence, she do homework in 45 minutes.

$$\begin{array}{r} 5 : 45 \text{ min} \\ - \ 5 : 00 \text{ min} \\ \hline 0 : 45 \text{ min} \end{array}$$

3. Now time is = 4:25
   and 60 minutes ago will be

$$60 \text{ minutes} = 1 \text{ hr}$$

then, 4 hr 25 minutes – 1 hr 0 minutes

Hence, 60 minutes ago time is 3:25

$$\begin{array}{r} 4 \text{ h} : 25 \text{ min} \\ - \ 1 \text{ h} : 00 \text{ min} \\ \hline 3 \text{ h} : 25 \text{ min} \end{array}$$

4. Madhuri starts watching video at = 7:00
   and video length = 1 hr 20 min.
   Then, the video's over time will be

$$= 7 \text{ hr } 00 \text{ min} + 1 \text{ hr } 20 \text{ min}$$

Hence, the video will be over at 8:20.

$$\begin{array}{r} 7 \text{ h} : 00 \text{ min} \\ + \ 1 \text{ h} : 20 \text{ min} \\ \hline 8 \text{ h} : 20 \text{ min} \end{array}$$

1.   (a) A quarter past six, 6:15 am.   (b) Half past one, 1:30 pm.
      (c) A quarter to nine, 8:45 a.m.   (d) A quarter to seven, 6:45 pm
      (e) Half past nine, 9:30 pm.
2.   Do it yourself.
3.   No, because she left for school at 8:25 am but her mother asked her to leave at quarter past eight i.e. at 8:15 am, so she is 10 min late.
4.   No, it is not correct to say this.

A.   **1.** (a) 12:00 pm   (b) 5:15 am   (c) 11:15 am   (d) 4:10 pm
      2. (a) 3:30 am   (b) 10:20 am   (c) 1: 00 pm   (d) 9:30 pm

B.   **1.**   1:20 am = 0120 hours   **2.**   1:50 pm= 1350 hours
      3.   9:15 pm = 2115 hours   **4.**   2:35 am = 0235 hours
      5.   11:05 pm = 2305 hours   **6.**   12:00 (midnight) = 2400 hours

C.   **1.**   1010 hours = 10 :10 am   **2.**   1345 hours = 1:45 pm
      3.   0810 hours = 8:10 am   **4.**   0205 hours = 2:05 am
      5.   0050 hours = 12:50 am   **6.**   2250 hours = 10:50 pm

A.   **1.**   **2.**   **3.**   1   1

5 h : 30 min	8 h : 20 min	9 min : 25 s
+ 6 h : 40 min	+ 5 h : 50 min	+ 1 3 min : 35 s
11 h : 70 min	13 h : 70 min	2 2 min : 60 s

             ↓   ↓   ↓

1 hr 10 min	1 hr 10 min	1 min 0 s
11 h + 1 h + 10 min	13 h + 1 h + 10 min	22 min + 1 min + 0 s
= 12 h 10 min	= 14 h 10 min	= 23 min 0 s

B.   **1.**

      60 h : 28 min
    – 56 h : 38 min

           ↓   [Since we cannot subtract 38 min from 28 min, we must rename 60 h 28 min as 59 h 88 min (60+28) Now carry out subtraction.]

      59 h : 88 min
    – 56 h : 38 min
       3 h : 50 min

  2.   28 h : 35 min
     – 14 h : 50 min

           ↓   [Since we cannot subtract 50 min from 35 min, we must rename 28 h 35 min as 27 h 95 min (60+35). Now carry out subtraction.]

      27 h : 95 min
    – 14 h : 50 min
     13 h : 45 min

3.

$$45 \text{ min} : 54 \text{ s}$$
$$- \; 40 \text{ min} : 44 \text{ s}$$
$$\overline{\quad 5 \text{ min} : 10 \text{ s} \quad}$$

Assess Yourself 14.7

1. Given in answer sheet.

2. Annual examination started on = April 3
Annual examination ended on = April 28
So, the examination will continue = (28 – 3) + 1 days
= 26 days.

3. Kamla's father left on = January 7, 2012
Kamla's father returned on = March 8, 2012
So, he remain out of house =
= (31 – 71 + 1) days in Jan + 29 days in Feb + 8 days in March.
(∵ 2012 is a leap year
∴ Feb. has 29 days)
= 25 + 29 + 8
= 62 days

4. A boy fell sick on = Feb. 12, 2014
He recovered on = April 8, 2014
He remained sick for =
= (28 – 12 + 1) days in Feb + 31 days in March + 8 days in April
= 17 + 31 + 8
= 56 days

5. Winter vacations were from 5th Dec. 2012 to 12th Feb. 2013.
∴ School was closed for
= (31 – 5 + 1) days in Dec. + 31 days in Jan + 12 days in Feb.
= 27 + 31 + 12
= 70 days

6. Rajan took leave for = 48 days
His leave starts from 13th September
∴ He rejoin his duty from –
13th to 30th Sep. no of days = 30 – 13 + 1
= 17 + 1 = 18 days
No. of days left = 48 – 18
= 30 days
i.e. from 1st Oct. to 30th October, he is on leave.
∴ He rejoin his duty on 31st October.

⇨ Cumulative Revision

A. **1.** 3 minutes
[its one mark is of 1 minute then three marks are of 3 minutes]

2. If 1 minute left in 3:00

then time now $= 2:60 - 0.01 = 2:59$

Hence, now time is 2:59

3. 1 minute = 60 seconds.

4. If now time is = 7:56

Minutes will be in 8:00 $= 7:60 - 7:56 = 0:04$

Hence, 4 minutes will be in 8:00

B. **1.** A quarter to five, then

minute hand point to be 9.

Minute Hand / 12 / 9 / 3 / 6
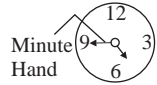
2. If added 15 mintues in 6:30

$= 6:30 + 0.15 = 6:45$

and subtractd 15 minutes in 7:00

$= 6:60 - 0:15 = 6:45$

Hence, 6:45 is the nearest time comes between 6:30 and 7:00

3. 6:45 pm = A quarter to seven.

4. 7:15 am = A quarter past seven.

C.

1.
```
     1      1
   2 8 h : 3 6 min
 +  8 h : 4 8 min
 ─────────────────
   3 6 h : 8 4 min
```
↓

84 min = 1 h 24 min
so, the sum is
37 h 24 min

2.
```
     1      1
   1 6 h : 5 6 min
 + 1 9 h : 3 7 min
 ─────────────────
   3 5 h : 9 3 min
```
↓

93 min = 1 h 33 min
so, the sum is
36 h 33 min

3.
```
     1          1
   3 5 min  :  3 8 s
 + 1 7 min  :  4 6 s
 ───────────────────
   5 2 min  :  8 4 s
```
↓

84 s = 1 min 24 s
so, the sum is
53 min 24 s

4.
```
    15    60
   16 h : 00 min
 −  8 h : 24 min
 ───────────────
    7 h : 36 min
```

5.
```
     9    73
    10 h : 13 min
 −   4 h : 56 min
 ────────────────
     5 h : 17 min
```

6.
```
    11      76
    12 min : 16 s
 −   3 min : 46 s
 ────────────────
     8 min : 30 s
```

7.
```
        1        1
    6 h  28 min  47 s
 +  7 h  45 min  29 s
 ────────────────────
   13 h  73 min  76 s
```
↓

76 s = 1 min 16 s
Also 74 min = 1 h 14 min
so, the sum is
14 h 14 min 16 s

8.
```
   11    84      82
   12 h  25 min  22 s
 −  3 h  35 min  34 s
 ────────────────────
    8 h  49 min  48 s
```

9.
```
                 1
    3 h  25 min  35 s
 +  2 h  20 min  15 s
 ────────────────────
    5 h  45 min  50 s
```

D. **1.** Rohan takes to paint a picture = 2 h 25 min

If he begins painting = 4:00 am

So the finishing time will be

Hence, he can finish paint a picture at 6:25

```
    4 h  00 min
 +  2 h  25 min
 ──────────────
    6 h  25 min
```

2. Rahim starts reading a book = 3:00 pm
and finished reading book = 5:20 pm
He takes time will be = 5:20 – 3:00
Hence, he takes time is 2:20

$$\begin{array}{r} 5 \text{ h } 20 \text{ min} \\ - 3 \text{ h } 00 \text{ min} \\ \hline 2 \text{ h } 20 \text{ min} \end{array}$$

3. (a) 25 minutes
    (b) 2 h and 17 minutes [6:17 – 4:00 = 2:17]
4.   Ganesh woke up = 6 am
and he left after = 1 h 45 min
Then, he takes time is = 6:00 + 1:45 = 7:45 am
Hence, he leave at 7:45.

$$\begin{array}{r} \text{h} \quad \text{min} \\ 6 \; : \; 0\,0 \\ + 1 \; : \; 4\,5 \\ \hline 7 \; : \; 4\,5 \end{array}$$

E. **1.** (a) 1:30 am = 0130 hours = 1:30
        (b) 5:30 pm = 1730 hours = 17:30
        (c) 6:00 am = 0600 hours = 6:00
        (d) 4:15 pm = 1615 hours = 16:15
        (e) 2:00 pm = 1400 hours = 14:00
        (f) 12:30 pm = 1230 hours = 12:30
        (g) 1:00 am = 0100 hours = 01:00
        (h) 7:30 pm = 1930 hours = 19:30
    2. (a) 1200 hours = 00:00 noon
        (b) 0615 hours = 6:15 am
        (c) 2200 hours = 10:00 pm
        (d) 0100 hours = 1:00 am
        (e) 1313 hours = 1:13 pm
        (f)   0500 hours = 5:00 am
F. **1.** January = 1st ordinal number.
    2. March = 3rd ordinal number.
    3. May = 5th ordinal number.
    4. June = 6th ordinal number.
    5. Sep. = 9th ordinal number.
    6. Dec. = 12th ordinal number.   ●

Chapter 15   Data Handling

Assess Yourself 15.1

A. **1. to 3.** do yourself.
B. **1.** (a) History subject was opted by maximum students.
        (b) Economics subject was opted by minimum students.
        (c) Maths= 50 students and Science = 70 students
            Hence, total students are (50 + 70) = 120 students.
        (d) 60 students opted Drawing.

2. (a) 60 oranges are there in the shop.

   (b) Bananas = 90 and Mangoes = 70

   Hence, difference between Bananas and Mangoes = 90 – 70 = 20

   (c) Guava is in the smallest quantity.

   (d) 40 apples are there in the shop.   ●

Chapter 16   Rounding and Estimation

Assess Yourself 16.1

1.   (a) 78 is closer to 80. So, 78 is rounded to 80.

   (b) 35 is halfway between 30 and 40. Conventionally it is rounded to 40.

   (c) 617 is closer to 620. So, 617 is rounded to 620.

   (d) 237 is closer to 240. So, 237 is rounded to 240.

   (e) 34 is closer to 30, So 34 is rounded to 30.

2.   (a) 315 is closer to 300. So 315 is rounded to 300.

   (b) 763 is closer to 800. So, 763 is rounded to 800.

   (c) 1563 is closer to 1600. So, 1563 is rounded to 1600.

   (d) 850 is halfway between 800 and 900. So 850 conventionally is rounded to 900.

   (e) 412 is between 400 and 500 but it is closer to 400. So, 412 is rounded to 400.

3.   (a) 3750 is closer to 4000. So, 3750 is rounded to 4000.

   (b) 18752 is closer to 19000. So, 18752 is rounded to 19000.

   (c) 6512 is between 6000 and 7000. But it is closer to 7000. So 6512 is rounded to 7000.

   (d) 7309 is closer to 7000. So, 7309 is rounded to 7000.

   (e) 12415 is closer to 12000. So, 12415 is rounded to 12000.

Assess Yourself 16.2

A.   **1.** 93 $\longrightarrow$ 90 $\therefore$ Sum of rounded place

   58 $\longrightarrow$ 60   value $=$ 90

$$\begin{array}{r} + \ 60 \\ \hline 150 \end{array}$$

   2. 734 $\longrightarrow$ 700 $\therefore$ Sum of rounded 700

   178 $\longrightarrow$ 200   place value $+$ 200

$$\begin{array}{r} \hline 900 \end{array}$$

3. 387 $\longrightarrow$ 400   ∴   Sum of rounded 400
377 $\longrightarrow$ 400   place value $\underline{+\ 400}$
                    800

4. 501 $\longrightarrow$ 500   ∴   Sum of rounded 500
461 $\longrightarrow$ 500   place value $\underline{+\ 500}$
                   1000

5. 36 $\longrightarrow$ 40   ∴   Sum of rounded 40
57 $\longrightarrow$ 60   place value $\underline{+\ \ 60}$
                    100

6. 823 $\longrightarrow$ 800   ∴   Sum of rounded 800
146 $\longrightarrow$ 100   place value $\underline{+\ 100}$
                    900

7. 71 $\longrightarrow$ 70   ∴   Sum of rounded 100
95 $\longrightarrow$ 100   place value $\underline{+\ 70}$
                    170

8. 419 $\longrightarrow$ 400   ∴   Sum of rounded 700
726 $\longrightarrow$ 700   place value $\underline{+\ 400}$
                   1100

B. **1.** 722 $\longrightarrow$ 700   ∴ difference of rounded   700
302 $\longrightarrow$ 300   place value $\underline{-\ 300}$
                      400

2. 270 $\longrightarrow$ 300   ∴ difference of rounded   300
219 $\longrightarrow$ 200   place value $\underline{-\ 200}$
                      100

3. 657 $\longrightarrow$ 700   ∴ difference of rounded   700
439 $\longrightarrow$ 400   place value $\underline{-\ 400}$
                      300

4. 335 $\longrightarrow$ 300   ∴ difference of rounded   300
229 $\longrightarrow$ 200   place value $\underline{-\ 200}$
                      100

5. 69 $\longrightarrow$ 70   ∴ difference of rounded   70
28 $\longrightarrow$ 30   place value $\underline{-\ 30}$
                       40

6. 85 $\longrightarrow$ 90   ∴ difference of rounded   90
79 $\longrightarrow$ 80   place value $\underline{-\ 80}$
                       10

7. $52 \longrightarrow 50$ $\therefore$ difference of rounded   50
     $37 \longrightarrow 40$ place value $\underline{- \ 40}$
                                                                          10

8. $289 \longrightarrow 300$ $\therefore$ difference of rounded   300
     $122 \longrightarrow 100$ place value $\underline{- \ 100}$
                                                                          200

C. **1.** $82 \longrightarrow 80$ $\therefore$ product of rounded   80
         $13 \longrightarrow 10$ place value $\underline{\times \ 10}$
                                                                          00
                                                                          $\underline{+ \ 800}$
                                                                          800

2. $99 \longrightarrow 100$ $\therefore$ product of rounded   100
     $12 \longrightarrow 10$ place value $\underline{\times \ 10}$
                                                                      00
                                                                      $\underline{+ \ 1000}$
                                                                      1000

3. $106 \longrightarrow 100$ $\therefore$ product of rounded   100
     $9 \longrightarrow 10$ place value $\underline{\times \ 10}$
                                                                      00
                                                                      $\underline{+ \ 1000}$
                                                                      1000

4. $192 \longrightarrow 200$ $\therefore$ product of rounded   200
     $39 \longrightarrow 40$ place value $\underline{\times \ 40}$
                                                                      00
                                                                      $\underline{+ \ 8000}$
                                                                      8000

5. $68 \longrightarrow 70$ $\therefore$ product of rounded   70
     $11 \longrightarrow 10$ place value $\underline{\times \ 10}$
                                                                      00
                                                                      $\underline{+ \ 700}$
                                                                      700

6. $64 \longrightarrow 60$ $\therefore$ product of rounded   60
     $19 \longrightarrow 20$ place value $\underline{\times \ 20}$
                                                                      00
                                                                      $\underline{+ \ 1200}$
                                                                      1200

7. $340 \longrightarrow 300$ $\therefore$ product of rounded $\begin{array}{r} 300 \\ \times\,10 \\ \hline 00 \\ +\,3000 \\ \hline 3000 \end{array}$

   $12 \longrightarrow 10$ place value

8. $345 \longrightarrow 300$ $\therefore$ product of rounded $\begin{array}{r} 300 \\ \times\,20 \\ \hline 00 \\ +\,6000 \\ \hline 6000 \end{array}$

   $16 \longrightarrow 20$ place value

●

Chapter 17   Patterns
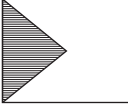
Assess Yourself 17.1

1.   (a) 16, 18, 20, 22, 24, 26   [each term added 2]

   (b) 2, 4, 6, 8, 10, 12   [each term added 2]

   (c) $1 \times 9 = 09$ [each term added 2]

   $2 \times 9 = 18$

   $3 \times 9 = 27$

   $4 \times 9 = 36$

   $5 \times 9 = 45$

   $6 \times 9 = 54$

   $7 \times 9 = 63$

   $8 \times 9 = 72$

   $9 \times 9 = 81$

   (d) 234, 345, 456 , 567, 678   [each term added 111]

   (e) 90, 135, 180, 225, 270, 315 , 360   [each term added 45]

   (f) 160, 80, 40, 20, 10, 5   [each term divided by 2]

2.   Do yourself.

3.   Do yourself.

1. (c) Σ

2 – 7. Do yourself.

8. (b) ◣ it continue the pattern.

9. (a) (···) it continue the pattern.

10. Do yourself.

11. (d) ◯ it is the next figure in this pattern.

●