6. Express the following as cm using decimals:

Ans. (a) 2mm ($\because$ 1cm = 10mm)

$= \frac{2}{10}$ cm $= 0.2$cm

(b) 30mm

$= \frac{30}{10}$ cm ($\because$ 1cm = 10mm)

$= 3.0$cm

(c) 116mm

$= \frac{116}{10}$ cm ($\because$ 1cm = 10mm)

$= \frac{100}{10} + \frac{10}{10} + \frac{6}{10}$ cm

$= 10 + 1 + 0.6$ cm $= 11.6$ cm

(d) 4 cm 2 mm

$= 4\text{cm} + \frac{2}{10}$ cm $= 4.2$ cm

(e) 162mm

$= \frac{100}{10} + \frac{60}{10} + \frac{2}{10}$ cm

$= 10 + 6 + 0.2$ cm $= 16.2$cm

(f) 83mm

$= \frac{80}{10} + \frac{3}{10}$ cm

$= 8 + 0.3$ cm $= 8.3$ cm

(g) 74mm

$= \frac{70}{10} + \frac{4}{10}$ cm

$= 7 + 0.4$ cm $= 7.4$cm

(h) 176mm

$= \frac{100}{10} + \frac{70}{10} + \frac{6}{10}$ cm

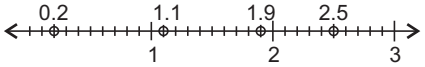
$= 10+7+0.6$cm $= 17.6$ cm

7. Between which two whole numbers on the number line are given numbers? Which whole number is nearer the number?

Ans. (a) 0 and 1;1 (b) 5 and 6 ; 5 (c) 2 and 3 ; 3 (d) 6 and 7 ; 6 (e) 9.0 itself is a whole number (f) 4 and 5 ; 5 (g) 2 and 3 (h) 5 and 6.

8. Show the following numbers on the number line:

Ans.



9. Write the decimal number represented by the points on the given number line:

Ans. A, 0.8 cm; B. 1.3 cm;
C. 2.2 cm; D. 2.9cm

10. (a) The length of Ramesh's notebook is 9 cm 5 mm. What will be its length in cm?

Ans. Length of Ramesh's notebook

$= 9$cm 5mm $= 9$cm $+ 5$mm

$= 9\text{cm} + \frac{5}{10}$ cm

$= 9$cm $+ 0.5$ cm $= 9.5$ cm

(b) The length of a young gram plant is 65 mm. Express its length in cm.

Ans. Length of gram plant = 65 mm

$= 60 + 5\text{mm} = \frac{60}{10} + \frac{5}{10}$ cm

$= 6+0.5$ cm $= 6.5$ cm.

Exercise-23

1. Which is greater?

Ans. (a) 0.3 or 0.4

$0.3 = \frac{3}{10}, 0.4 = \frac{4}{10}$

$\because$ $4 > 3$ $\therefore$ $0.4 > 0.3$

(b) 0.07 or 0.02

$0.07 = \frac{7}{100}, 0\,0.02 = \frac{2}{100}$

$\because$ $7 > 2$ $\therefore$ $0.07 > 0.02$

(c) 3 or 0.8

$\because$ Whole number > Decimal number

$\therefore$ $3 > 0.8$

(d) 0.5 or 0.05

$0.5 = \frac{5}{10} + \frac{0}{100}, 0.05 = \frac{0}{10} + \frac{5}{100}$

$\because$ $5 > 0$ (Comparing tenth parts)

$\therefore$ $0.5 > 0.005$

(e) 0.052 or 0.11

$0.052 = \frac{0}{10} + \frac{5}{100} + \frac{2}{100}$

$0.11 = \frac{1}{10} + \frac{1}{100} + \frac{0}{1000}$

$\because$ $1 > 0$ (Comparing tenth parts)

$\therefore$ $0.11 > 0.052$

(f) 2.012 or 0.99

$\because$ Whole number > Decimal number

$\therefore$ $2.012 > 0.99$

(g) 1 or 0.89

$\because$ Whole number > Decimal number

$\therefore$ $1 > 0.89$

(h) 1.23 or 1.2

$1.23 = 1 + \frac{2}{10} + \frac{3}{100}$

$1.2 = 1 + \frac{2}{10} + \frac{0}{100}$

$\because$ $3 > 0$ (Comparing hundredth parts)

$\therefore$ $1.23 > 1.2$

(i) 0.099 or 0.19

$0.099 = \frac{0}{10} + \frac{9}{100} + \frac{9}{1000}$

$0.19 = \frac{1}{10} + \frac{9}{100} + \frac{0}{100}$

$\because$ $1 > 0$ (Comparing tenth parts)

$\therefore$ $0.19 > 0.099$

(j) 1.5 or 1.50

$1.5 = 1 + \frac{5}{10} + \frac{0}{100}$

$1.50 = 1 + \frac{5}{10} + \frac{0}{100}$

$\because$ All parts are equal

$\therefore$ Both are same.

(k) 1.431 or 1.490

$1.43 = 1 + \frac{4}{10} + \frac{3}{100} + \frac{1}{1000}$

$1.49 = 1 + \frac{4}{10} + \frac{9}{100} + \frac{0}{1000}$

$\because$ $9 > 3$ (Comparing hundredth parts)

$\therefore$ $1.490 > 1.431$

(l) 3.3 or 3.300

$3.3 = 3 + \frac{3}{10} + \frac{0}{100} + \frac{0}{1000}$

$3.3 = 3 + \frac{3}{10} + \frac{0}{100} + \frac{0}{1000}$

$\because$ All parts are equal

$\therefore$ Both are same

(m) 5.64 or 5.603

$5.64 = 5 + \frac{6}{10} + \frac{4}{100} + \frac{3}{1000}$

$5.603 = 5 + \frac{6}{10} + \frac{0}{100} + \frac{4}{1000}$

$\because$ $4 > 0$ (Comparing hundredth parts)

$\therefore$ $5.64 > 5.603$

(n) 1.008 or 1.800

$1.008 = 1 + \frac{0}{10} + \frac{0}{100} + \frac{8}{1000}$

$1.800 = 1 + \frac{8}{10} + \frac{0}{100} + \frac{0}{1000}$

$\because$ $8 > 0$ (Comparing tenth parts)

$\therefore$ $1.800 > 1.008$

(o) 1.52 or 2.05

$1.52 = 1 + \frac{5}{10} + \frac{2}{100}$

$2.05 = 2 + \frac{0}{10} + \frac{5}{100}$

$\because$ $2 > 1$ (Comparing ones)

$\therefore$ $2.05 > 1.52$

(p) 1.4 or 1.40

$1.4 = 1 + \frac{4}{10} + \frac{0}{100}$

$1.40 = 1 + \frac{4}{10} + \frac{0}{100}$

$\because$ All parts are equal

$\therefore$ Both are same.

(q) 0.088 or 0.18

$0.88 = \frac{0}{10} + \frac{8}{100} + \frac{8}{1000}$

$0.18 = \frac{1}{10} + \frac{8}{100} + \frac{0}{1000}$

$\because$ $1 > 0$ (Comparing tenth parts)

$\therefore$ $0.18 > 0.88$

(r) 1.34 or 1.3

$1.34 = 1 + \frac{3}{10} + \frac{4}{100}$

$1.3 = 1 + \frac{3}{10} + \frac{0}{100}$

$\because$ $4 > 0$ (Comparing hundredth parts)

$\therefore$ $1.34 > 1.3$

Exercise-24

1. Express as rupees using decimals:

Ans. (a) 5 paise

$= ₹\frac{5}{100}$ (1 ₹ = 100 piase)

$= ₹0.05$

(b) 75 paise

$= ₹\frac{75}{100}$ (1 ₹ = 100 paise)

$= ₹0.75$

(c) 3 rupees 60 paise

$= ₹3 + \frac{60}{100}$

$= ₹3 + 0.6 = ₹3.60$

(d) 450 paise

$= 400$ paise $+ 50$ paise

$= ₹4 + 50$ paise (100 paise = ₹ 1)

$= ₹4 + \frac{50}{100}$

$= ₹4 + 0.5 = ₹4.50$

(e) 20 paise

$= ₹\frac{20}{100}$ (1 ₹ = 100 piase)

$= ₹0.20$

(f) 50 rupees 90 paise

$= ₹50 + \frac{90}{100}$

$= ₹50 + 0.9 = ₹50.90$

(g) 725 paise

$= 700 + 25$ paise

$= ₹7 + 25$ paise (100 paise = 1 ₹)

$= ₹7 + \frac{25}{100}$

$= ₹7 + 0.25$

$= ₹7.25$

(h) 12 paise

$= ₹\frac{12}{100}$ (₹ 1 = 100 paise)

$= ₹ 0.12$

(i) 25 paise

$= ₹\frac{25}{100}$ (₹ 1 = 100 paise)

$= ₹ 0.25$

2. Express as metres using decimals:

Ans. (a) 15 cm

$= \frac{15}{100}$ m (1 m = 100 cm)

$= 0.15$ m

(b) 6 cm

$= \frac{6}{100}$ m (1 m = 100 cm)

$= 0.06$ m

(c) 136 cm

$= 100$ cm $+ 36$ cm

$= 1$ m $+ 36$ cm (100 cm = 1 m)

$= 1$ m $+ \frac{36}{100}$ m

$= 1$m $+ 0.36$ m $= 1.36$ m

(d) 2 m 45 cm

$= 2$ m $+ \frac{45}{100}$ m (1 m = 100 cm)

$= 2$ m $+ 0.45$ m $= 2.45$ m

(e) 9 m 7 cm

$= 9$ m $+ \frac{7}{100}$ m (1 m = 100 cm)

$= 9$ m $+ 0.07$ m $= 9.07$ m

(f) 419 cm

$= 400 + 19$ cm

$= 4$ m $+ 19$ cm (100 cm = 1 m)

$= 4$ m $+ \frac{19}{100}$ m

$= 4$ m $+ 0.19$ m $= 4.19$ m

(g) 145 cm

$= 100$ cm $+ 45$ cm

$= 1$ m $+ 45$ cm (100 cm = 1 m)

$= 1$m $+ \frac{45}{100}$ m

$= 1$m $+ 0.45$ m $= 1.45$ m

(h) 3 m 46 cm

$= 3$ m $+ \frac{46}{100}$ m (1 m = 100 cm)

$= 3$ m $+ 0.46$ m

$= 3.46$ m

3. Express as cm using decimals:

Ans. (a) 5 mm

$= \frac{5}{10}$ cm (1 cm = 10 mm)

$= 0.5$cm

(b) 60mm

$= \frac{60}{10}$ cm (1 cm = 10 mm)

$= 6.0$ cm

(c) 164 mm = 100 + 60 + 4 mm

$= \frac{100}{10} + \frac{60}{10} + \frac{4}{10}$ cm

(1 cm = 10 mm)

$= 10 + 6 + 0.4$ cm $= 16.4$ cm

(d) 9 cm 8 mm

$= 9$ cm $+ \frac{8}{10}$ cm (1cm = 10 mm)

$= 9.8$ cm

(e) 16 cm 7 mm

$= 16$ cm $+ \frac{7}{10}$ cm (1 cm = 100 mm)

$= 16$ cm $+ 0.7$ cm $= 16.7$ cm

(f) 93 mm = 90 mm + 3 mm

$= 9$ cm $+ \frac{3}{10}$ cm (100mm = 1cm)

$= 9$cm $+ 0.3$cm $= 9.3$cm

4. Express as km using decimals:

Ans. (a) 8 m

$= \frac{8}{1000}$ km (1 km = 1000 m)

$= 0.008$ km

(b) 88 m

$= \frac{8}{1000}$ km (1 km = 1000 m)

$= 0.088$ km

(c) 888 m

$= \frac{888}{1000}$ km (1 km = 1000 m)

$= 0.888$ km

(d) 8888 m

$= 8000$ m $+ 888$ m

$= 8$ km $+ \frac{888}{1000}$ km

(1000m = 1km)

$= 8.888$ km

(e) 70 km 5 m

$= 70$ km $+ \frac{5}{1000}$ km

(1 km = 1000 m)

$= 70$ km $+ 0.005$ km

$= 70.005$ km

(f) 29 km 37 m

$= 29$ km $+ \frac{37}{1000}$ km

(1 km = 1000 m)

$= 29$ km $+ 0.037$ km

$= 29.037$ km

5. Express as kg using decimals:

Ans. (a) 2g

$= \frac{2}{1000}$ kg (1 kg = 1000 g)

$= 0.002$ kg

(b) 100g
$= \frac{100}{1000}$ kg (1 kg = 1000 g)
= 0.1kg

(c) 3750 g = 3000 g + 750 g
= 3 kg + $\frac{8}{1000}$ kg (1000 g = 1 kg)
= 3 kg + 0.750 kg = 3.750 kg

(d) 2 kg 700 g
= 2 kg + $\frac{700}{1000}$ kg (1 kg = 1000 g)
= 2 kg + 0.7 kg = 2.7 kg

(e) 5 kg 9 g
= 5 kg + $\frac{8}{1000}$ kg (1 kg = 1000 g)
= 5 kg + 0.008 kg = 5.008 kg

(f) 26 kg 50 g
= 26 kg + $\frac{50}{1000}$ kg (1 kg = 1000 g)
= 26 kg + 0.05 kg = 26.05 kg

6. Express each of the following without decimals:

Ans. (a) 2.30 kg
= 2.30 × 1000 gm (1kg = 1000 gm)
= 2 × 1000g + 30×1000 g
= 2000 g + 300 g = 2300 gm.

(b) 9.240 kg = 9.240 × 1000 gm
(1 kg = 1000 gm)
= 9 × 1000 gm + 240 × 1000 gm
= 9000 gm + 240 gm = 9240 gm

(c) 3.5 cm
=3.5 × 10 mm (1 cm = 10 mm)
= 35 mm

(d) 3.05km
= 3.05 × 1000 m (1 km = 1000 m)
= 3 × 1000 m + 0.5 × 1000 m
= 3000 m + 500 m = 3500 m

(e) 8.81 m
= 8.81 × 100 cm (1 m = 100 cm)
= 8 × 100 cm + 81 × 100 cm
= 800 cm + 81 cm = 881 cm

(f) 13.05 m
= 13.05 × 100 cm (1 m = 100 cm)
= 13 × 100 cm + 0.05 × 100
= 1300 + 05 cm = 1305 cm

(g) 15.038 km
= 15.038 × 1000 m (1km = 1000m)
= 15 × 1000 m + 0.38 × 1000 m
= 15000 m + 380 m = 15380 m

(h) 14.007 kg = 14.007 × 1000 gm
(1kg = 1000gm)
= 14 × 1000gm + 0.007 × 1000gm
= 14000 + 7gm = 14007gm

(i) 11.06m
= 11.06 × 100cm (1m = 100cm)
= 11 × 100cm + 0.06 × 100cm
= 1100 cm + 6 cm = 1106 cm

(j) 0.2 cm
=0.2 × 10mm (1cm = 10mm)
= 2 mm

(k) 7.5m
= 7.5 ×100cm (1m = 100cm)
= 7 × 100cm + 5 × 100cm
= 700 cm + 50cm = 750cm

(l) 14.05m
= 14.05 × 100cm (1m = 100cm)
= 14 × 100cm + 0.05 × 100cm
= 1400 + 5cm = 1405cm.

Exercise-25

1. Find the sum in each of the following:

Ans. (a) 0.007 + 8.5 + 30.08
= 38. 587

```
 00.007
+08.500
+30.080
 38.587
```

(b) 15 + 0.632 + 13.8
= 29.432

```
 15.000
 00.632
+13.800
 29.432
```

(c) 27.076 + 0.55 + 0.004
= 27.630

```
 27.076
 00.550
+00.004
 27.630
```

(d) 25.65 + 9.005 + 3.7
= 38.355

```
 25.650
 09.005
+03.700
 38.355
```

(e) 0.75 + 10.425 + 2
= 13.175

```
 00.750
 10.425
+02.000
 13.175
```

(f) 280.69 + 25.2 + 38
= 343.89

```
 280.69
 025.20
+038.00
 343.89
```

2. Rajeev spent ₹ 35.75 for maths book and ₹ 32.60 for science book. Find the total amount spent by Rajeev.

Ans. Money spent for maths book = ₹ 35.75
Money spent for science book = ₹ 32.60

```
 35.75
+32.60
 68.35
```

∴ Total money spent
= ₹ 35.75 + ₹ 32.60 = ₹ 68.35

3. Kirti's mother gave her ₹ 10.50 and her father gave her ₹ 15.80, find the total amount given to Kirti by the parents.

Ans. Money given by the mother = ₹ 10.50
Money given by the father = ₹ 15.80
∴ Total money given = ₹ 10.50 + ₹ 15.80 = ₹ 26.30

```
  10.50
+ 15.80
  26.30
```

4. Poonam bought 3 m 20 cm cloth for her shirt and 2 m 5 cm cloth for her trousers. Find the total length of cloth bought by her.

Ans. Cloth bought for shirt = 3m 20cm = 3.20m
Cloth bought for trousers = 2m 5cm = 2.05m
∴ Total length of cloth bought = 3.20m + 2.05m = 5.25m.

```
  3.20 m
+ 2.05 m
  5.25 m
```

5. Ansh bought 2m 50cm cloth for his kurta and 1 m 25 cm cloth for his pyjama. Find the total length of cloth bought by him.

Ans. Cloth bought for kurta = 2m 50cm = 2.50m
Cloth bought for pyjama = 1m 25cm = 1.25m
Total length of cloth bought = 2.50m + 1.25m = 3.75m

```
  2.50 m
+ 1.25 m
  3.75 m
```

Exercise-26

1. Subtract the following.

Ans. (a) 18.25 from ₹ 20.75 = ₹ 2.50

```
  ₹ 20.75
− ₹ 18.25
  ₹ 2.50
```

(b) 202.54 m from 250 m = 47.46 m

```
  250.00 m
− 202.54 m
   47.46 m
```

(c) ₹ 5.36 from ₹ 8.40 = 3.04

```
  ₹ 8.40
− ₹ 5.36
  ₹ 3.04
```

(d) 2.051 km from 5.206 km = 3.046 km

```
  5.206 km
− 2.051 km
  3.046 km
```

(e) 0.134 kg from 2.107 kg = 1.973 kg

```
  2.107 kg
− 0.134 kg
  1.973 kg
```

2. Find the value of:

Ans. (a) 9.756 – 6.28 = 3.476

```
  9.756
− 6.280
  3.476
```

(b) 21.05 – 15.27 = 5.78

```
  21.05
− 15.27
   5.78
```

(c) 18.5 – 6.79 = 11.71

```
  18.50
− 6.79
  11.71
```

(d) 11.6 – 9.847 = 1.753

```
  11.600
− 9.847
   1.753
```

3. Rahim bought a book for ₹ 35.65 He gave ₹ 50 to the shopkeeper. How much money did he get back from the shopkeeper?

Ans. Total money given to the shopkeeper = ₹ 50
Cost of the book = ₹ 35.65
∴ Money got back = ₹ 50 – ₹ 35.65 = ₹ 14.35

```
  50.00
− 35.65
  14.35
```

4. Rajni had ₹ 18.50. She bought one icecream for ₹ 11.75. How much money does she have now?

Ans. Total amount of money = ₹ 18.50
Amount spent on ice-cream = ₹ 11.75
∴ Balance amount of money = ₹ 18.50 – ₹ 11.75 = ₹ 6.75

```
  ₹ 18.50
− ₹ 11.75
  ₹ 6.75
```

5. Veena had 20 m 5 cm long cloth. she cuts 4 m 50 cm length of cloth from this for making a curtain. How much cloth is left with her?

Ans. Total cloth with Veena = 20.05 m
Cloth taken out for making curtain = 4.50 m
∴ Cloth left = 20.05 m 4.50 m = 15.55 m

```
  20.05 m
− 4.50 m
  15.55 m
```

6. Geeta travels 20 km 50 m everyday. Out of this she travels 10km 200m by bus and the rest of by auto. How much distance does she travel by auto?

Ans. Total distance travelled = 20.050 km
Distance travelled by bus = 10.200 km

```
  20.850 km
− 10.200 km
   9.850 km
```

∴ Distance traveled by car
= 20.050km – 10.200km
= 9.850km

7. Mala bought vegetables weighing 10kg. Out of this 3 kg 50 gm is onions. 2 kg 75 g is tomatoes and the rest is potatoes. What is the weight of potatoes?

Ans. Total weight of vegetables = 10 kg
Weight of onions = 3.050 kg
Weight of tomatoes = 2.075 kg

```
10.000
-5.125
 4.875
```

∴ Weight of Potatoes
= 10.00 kg 3.050 kg + 2.075 kg
= 10.00 kg 5.125 kg = 4.875 kg

8. Karim walked 2 km 35 m in the morning and 1 km 7 m in the evening. How much distance did he walk in all?

Ans. Distance travelled in morning = 2.035 km
Distance travelled in evening = 1.007 km

```
 2.035 km
+1.007 km
 3.042 km
```

∴ Total distance covered by walking = 2.035 km + 1.007 km
= 3.042 km

9. Pooja travels 15 km 268 m by bus, 7 km 7 m by car and 500 m by foot in order to reach her school. How far is her school from her residence?

Ans. Distance covered by bus = 15.268 km
Distance covered by bus = 7.007 km
Distance covered by foot = 0.500km

```
15.268 km
 7.007 km
 +.500 km
22.775 km
```

∴ Total Distance of school from Pooja's residence
= 15.268 km + 7.007 km + 0.500 km
= 22.775 km

10. Sudheer purchased 5 kg 400 g rice. 2 kg 20 g sugar and 10 kg 850 g flour. Find the total weight of his purchases.

Ans. Weight of rice purchased = 5.400 kg
Weight of sugar purchased = 2.200 kg
Weight of flour purchased = 10.850 kg

∴ Total weight of purchases
= 5.400 kg + 2.200 kg + 10.850 kg
= 18.270 kg

```
 5.400 kg
 2.200 kg
+10.850 kg
18.270 kg
```

11. A fruit-seller started his day with 140 kg of fruits to sell. At the closing of the sale, 28.250 kg of the fruits were remaining. How much was his sale on that day?

Ans. Weight of at the fruits at the morning = 140kg
Weight of the fruits at the evening = 28.250kg
∴ Sale of the day = 140kg 28.250kg
=111.750 kg

```
140.000 kg
-28.250 kg
111.750 kg
```

12. John travelled 78.750 km by train, 12.500 km by bus and 250 m by walk to reach his friend's house in the village. What distance did John travel?

Ans. Distance travelled by train = 78.750 km
Distance travelled by bus = 12.500 km
Distance travelled by walking = 0.250 km

```
78.750 km
12.500 km
 +.250 km
91.500 km
```

∴ Total distance travelled
= 78.750 km + 12.500 km + 0.250 km
= 91.500 km

13. Alpana had ₹ 125 with her. She spent ₹ 68.25 from that to buy some books. What amount was remaining with her?

Ans. Total amount with Alpana = ₹ 125
Money spent for buying books = ₹ 68.25

```
₹125.00
-₹68.25
 ₹56.75
```

∴ Money left = ₹ 125 – ₹ 68.25
= ₹ 56.75

14. A caterer needs 80 litres of cooking oil to cook dinner in a party. But he has only 35.275l in his stock. How much oil must he buy?

Ans. Total oil needs = 80 litres
Oil with the caterer = 35.275 *l*

```
80.000 l
-35.275 l
44.725 l
```

∴ Oil required more
= 80 litres – 32.275 litres
= 44.725 *l*

15. There are three bags of sugar in a grocery store. They contain 32.450 kg, 28.625 kg and 34.125 kg respectively. How much sugar is there in the store?

Ans. Sugar in the first bag = 32.450kg
Sugar in the second bag = 28.625 kg
Sugar in the third bag = 34.125 kg

$$\begin{array}{r} 32.450\ \text{kg} \\ 28.625\ \text{kg} \\ +34.125\ \text{kg} \\ \hline 95.200\ \text{kg} \end{array}$$

Total sugar in the store
= 32.450 kg + 28.625 kg + 34.125 kg
= 95.200 kg

16. Pramod has to travel 12.4 km to reach his school. His friend Ahmed has to travel 14.1 km. Whose house is more distant from the school? How many kilometres more?

Ans. Distance travelled by Pramod = 12.4 km
Distance travelled by Ahmed = 14.1 km

$$\begin{array}{r} 14.100\ \text{km} \\ -12.400\ \text{km} \\ \hline 1.700\ \text{km} \end{array}$$

$\because$ $14 > 12$
$\therefore$ Ahmed travelled more
Now, Difference
= 14.1 km – 12.4 km
= 1.700 km

17. The cost of a shirt is ₹ 250.75 and that of a pair of trousers is ₹ 375.85. What is their total cost?

Ans. Cost of the shirt
= ₹ 250.75
Cost of the trousers
= ₹ 375.85
Total Cost = ₹ 250.75 + ₹ 375.85
= ₹ 626.60

$$\begin{array}{r} ₹250.75 \\ -₹375.85 \\ \hline ₹626.60 \end{array}$$

12 Simplification of Numbers

Exercise-27

Simplify the following:

Ans.

1. $(9+11)\times(7-14+9)$
$=20\times16-14$
$=20\times2=40$
2. $18-\{9+(5-6+8)\}$
$=18-\{9+(13-6)\}$
$=18-\{9+7\}$
$=18-16=2$
3. $72-[36-\{90+(70+14\}+64]\times14$
$=72-[36-(90+84+64)]\times14$
$=72-[36-238]\times14$
$=72-(-202)\times14$
$=72+202\times14=3836$
4. $9\times8-[5+\{3-(5-3)\times7\}]$
$=9\times8-[5+\{3-2\times7\}]$
$=9\times8-[5+1\times7]$
$=9\times8-[5+7]$
$=9\times8-12$
$=72-12=60$
5. $64+[17-\{80-(21+19)\times2\}]$
$=64+[17-\{80-40\times2\}]$
$=64+[17-0]$
$=64+17=81$
6. $18-[7+\{3+(5-6+7)\}]$
$=18-[7+\{3+(12-6)\}]$
$=18-[7+\{3+6\}]$
$=18-7+9$
$=18-16$
$=2$
7. $125-\{75+(4\times25-2\times25)\}$
$=125-\{75+(100-50)\}$
$=125-\{75+50\}$
$=125-125=0$
8. $(45\div15)+\{(8\times12)\div8\}$
$=3+\{(96)\div8\}$
$=3+12=15$
9. $40-\{(17-3)\div(20-13)\}$
$=40-\{(14)\div7)\}$
$=40-14\div7$
$=40-2=20$
10. $15-\{8\div(9-5)+11\}$
$=15-\{8\div4+11$
$=15-2+11$
$=15-13=2$
11. $(72\div6)\times4-72\div(6\times4)$
$=12\times4-72\div24$
$=12\times4-3$
$=48-3=45$
12. $84\div(72\div6)$
$=84\div12$
$=7$
13. $250-(7+8-6-3)$
$=250-(15-6-3)$
$=250-(15-6+3)$
$=250-(15-9)$
$=250-6$
$=244$
14. $12\times(6+3-7)$
$=12\times(9-7)$
$=12\times2=24$

15. $8+(7-2+8)$
$=8+(5+8)$
$=8+13=21$

16. $729\div 9\ \ 15\times 30+5+18\times 9$
$=729\div 0\ \ 15\times 15+18\times 9$
$=81-15\times 15+18\times 9$
$=81-225+162$
$=243-225=18$

17. 24×15 of $4\div 4+3-325$
$=24\times 60\div 4+3-225$
$=24\times 15+3-225$
$=360+3-225$
$=363-225=138$

18. $625\times 13+8382\div 16-916$
$=625\times 13+127-916$
$=8125+127-916$
$=8252-916=7336$

19. $529\times 71-630\div 42$
$=529\times 71-15$
$=37559-15$
$=37544$

20. $100+(25\times\{40-(20\div 5)\}]$
$=100+(25\times\{40-4\}]$
$=100+(25\times 36)$
$=100+900$
$=1000$

13 Percentage

Exercise-28

1. (a) What is the number whose 10% is 18?

Ans. Let the number be x
Now 10% of $x=18$

$\Rightarrow \frac{10}{100}\times x=18$

$\Rightarrow x=\frac{\cancel{100}\times 18}{\cancel{10}}=180$

(b) What is the number whose 8% is 32?

Ans. Let the number be x
Now, 8% of $x=32$

$\Rightarrow \frac{8}{100}\times x=32$

$\Rightarrow x=\frac{100\times \cancel{32}^{4}}{\cancel{8}}$

$=100\times 4=400$

(c) What is the number whose 25% is 50?

Ans. Let the number be x
Now, 25% of $x=50$

$\Rightarrow \frac{25}{100}\times x=50$

$\Rightarrow x=\frac{\cancel{50}^{2}\times 100}{\cancel{25}}=200$

(d) What is the number whose 30% is 84?

Ans. Let the number be x
Now, 30% of $x=84$

$\Rightarrow \frac{30}{100}\times x=84$

$\Rightarrow x=\frac{\cancel{84}^{28}\times \cancel{100}}{\cancel{30}}=280$

(e) What is the number whose 16% is 32?

Ans. Let the number be x
Now, 16% of $x=32$

$\Rightarrow \frac{16}{100}\times x=32$

$\Rightarrow x=\frac{\cancel{32}^{2}\times 100}{\cancel{16}_{1}}=200$

(f) What is the number whose 36% is 18?

Ans. Let the number be x
Now, 36% of $x=18$

$\Rightarrow \frac{36}{100}\times x=18$

$\Rightarrow x=\frac{18\times \cancel{100}^{50}}{\cancel{36}_{2}}=50$

2. Which of the two is more?

Ans. (a) 20% of $60=\frac{\cancel{20}}{\cancel{100}}\times \cancel{60}=12$

60% of $8=\frac{\cancel{60}^{3}}{\cancel{100}_{5}}\times 8=\frac{24}{5}=4.8$

$\therefore$ 20% of 60 is more.

(b) 25% of $500=\frac{25}{\cancel{100}}\times \cancel{500}=125$

1% of $300=\frac{1}{\cancel{100}}\times \cancel{300}=3$

$\therefore$ 25% of 500 is more

(c) 8% of $2000=\frac{8}{\cancel{100}}\times \cancel{2000}=160$

25% of $600=\frac{25}{\cancel{100}}\times \cancel{600}=150$

$\therefore$ 8% of 2000 is more

(d) 20% of $450=\frac{\cancel{20}}{\cancel{100}}\times 45\cancel{0}=90$

50% of $250=\frac{\cancel{50}}{\cancel{100}}\times 25\cancel{0}=125$

$\therefore$ 50% of 250 is more.

3. Find the value of each of the following?

Ans. (a) 20% of ₹500

$=\frac{20}{1\cancel{00}}\times ₹\ 5\cancel{00}=$ ₹ 100

(b) 40% of 40 kg

$= \frac{\cancel{40}}{\cancel{100}} \times \cancel{40}\,\text{kg} = 16\,\text{kg}$

(c) 20% of 650 g

$= \frac{\cancel{20}}{\cancel{100}} \times \cancel{650}\,\text{g} = 130\,\text{g}$

(d) 15% of 250 m

$= \frac{15}{{}_{2}\cancel{100}} \times \cancel{250}^{5}\,\text{m} = \frac{75}{2} = 37.50\,\text{m}$

(e) 12.5% of 24 m*l*

$= \frac{\cancel{125}^{1}}{\cancel{1000}_{8}} \times 24^{3}\,\text{m}l = 3\,\text{m}l$

(f) 25% of ₹ 75

$= \frac{\cancel{25}^{1}}{\cancel{100}_{4}} \times ₹\,75 = \frac{75}{4} = ₹\,18.75$

4. Find the value of each of the following:

Ans. (a) $100\%\text{ of }50 = \frac{\cancel{100}}{\cancel{100}} \times 50 = 50$

(b) $2\%\text{ of }125 = \frac{\cancel{2}}{\cancel{100}_{4}} \times \cancel{125}^{5} = 2.5 = 2\frac{1}{2}$

(c) $50\%\text{ of }100 = \frac{50}{\cancel{100}} \times \cancel{100} = 50$

(d) $75\%\text{ of }256 = \frac{\cancel{75}^{3}}{\cancel{100}_{4}} \times \cancel{256}^{64}$

$= 3 \times 64 = 192$

(e) $16\%\text{ of } = \frac{\cancel{16}^{8}}{\cancel{100}_{20}} \times \frac{\cancel{5}}{\cancel{10}_{5}}$

$= \frac{8}{20} \times \frac{1}{5} = \frac{8}{100} = 0.08$

(f) $25\%\text{ of }\frac{1}{15} = \frac{\cancel{25}^{5}}{100} \times \frac{1}{\cancel{15}_{3}}$

$= \frac{\cancel{5}}{\cancel{100}_{20}} \times \frac{1}{3} = \frac{1}{20 \times 3} = \frac{1}{60}$

(g) $125\%\text{ of }125 = \frac{125}{\cancel{100}_{4}} \times \cancel{125}^{5}$

$= \frac{125 \times 5}{4} = 156.25 = 156\frac{1}{4}$

(h) 25% of 250

$= \frac{\cancel{25}^{5}}{\cancel{100}_{2}} \times \cancel{250} = \frac{125}{2} = 62.5 = 62\frac{1}{2}$

(i) $20\%\text{ of }725 = \frac{\cancel{20}^{1}}{\cancel{100}_{5}} \times 725 = \frac{725}{5}$

$= 145$

(j) $30\%\text{ of } = \frac{\cancel{30}}{100} \times \frac{1}{\cancel{120}_{4}} = \frac{1}{400}$

5. What percentage is 45 minutes of 24 hours 30 minutes?

Ans. 45 minutes of 24 hours 30 minutes

= % of 45 minutes of (24×60) minutes + 30 minutes

= % of 45 minutes of 1470 minutes

$= \frac{45 \times 100}{1470} = \frac{450}{147}$

$147\overline{)450}(3$
-441
9

$= 3\frac{\cancel{9}^{3}}{\cancel{147}_{49}} = 3\frac{3}{49}\%$

(b) What percentage is 2 kg 250 gm of 12 kg 250 gm.

Ans. % of 2kg 250 gm of 12 kg 250 gm

= % of 2000 gm + 250 gm of 12000 gm + 250 gm

= % of 2250 gm of 12250 gm

$= \frac{\cancel{2250}^{450} \times \cancel{100}^{2}}{\cancel{12250}_{\cancel{245}_{49}}}\%$

$= \frac{900}{49}\% = 18\frac{18}{49}\%$

6. Fill in the blanks with percentage:

Ans. (a) 8 paise = **8%** of a rupee

(b) 35 paise = **35%** of a rupee

(c) 50 cm = **50%** of a meter

(d) 100 g = **50%** of a kg

(e) 40 ml = **10%** of a litre

(f) 8 mm = **80%** of a cm

(g) 200 m = **20%** of a km

(h) 5 g = **0.5%** of a kg

7. Change the decimal fractions into percentage.

Ans. (a) $0.4 = \frac{40}{100} = \left(\frac{40}{100} \times 100\right)\% = 40\%$

(b) $0.06 = \frac{60}{100} = \left(\frac{60}{100} \times 100\right)\% = 6\%$

(c) $0.27 = \frac{27}{100} = \left(\frac{27}{100} \times 100\right)\% = 27\%$

(d) $6.4 = \frac{640}{100} = \left(\frac{640}{100} \times 100\right)\% = 64\%$

(e) $0.005 = \frac{5}{1000} = \left(\frac{5}{1000} \times 100\,\%\right)$

$= 0.5\%$

(f) $0.42 = \frac{42}{100} = \left(\frac{42}{100} \times 100\right)\% = 42\%$

(g) $8.9 = \frac{890}{100} = \left(\frac{890}{100} \times 100\right)\% = 890\%$

(h) $.0003 = \frac{3}{1000} = \left(\frac{3}{1000} \times 100\right)\%$

$= 0.03\%$

8. Change the percentages into decimal fractions:

Ans. (a) $6\% = 6 \times \frac{1}{100} = \frac{6}{100} = 0.06$

(b) $11\% = 11 \times \frac{1}{100} = \frac{11}{100} = 0.11$

(c) $10\% = 10 \times \frac{1}{100} = \frac{10}{100} = 0.1$

(d) $2\% = 2 \times \frac{1}{100} = \frac{2}{100} = 0.02$

(e) $25\% = 25 \times \frac{1}{100} = \frac{25}{100} = 0.25$

(f) $40\% = 40 \times \frac{1}{100} = \frac{40}{100} = 0.4$

(g) $6\% = \frac{25}{4}\% = \frac{25}{4} \times \frac{1}{100}$

$= \frac{25}{100} = 0.0625$

(h) $1.2\% = \frac{3.4}{2}\% = \frac{3.4}{2} \times \frac{1}{100}$

$= \frac{3.4}{200} = 0.17$

9. Convert the following common fractions into percentage:

Ans. (a) $\frac{1}{8} = [\frac{1}{8} \times 100]\%$

$= \frac{100}{8}\% = 12\frac{1}{2}\%$

(b) $\frac{7}{10} = [\frac{7}{10} \times 100]\%$

$= \frac{700}{10} = 70\%$

(c) $\frac{4}{5} = [\frac{4}{5} \times 100]\%$

$= \frac{400}{5}\% = 80\%$

(d) $\frac{3}{10} = [\frac{3}{10} \times 100]\%$

$= \frac{300}{10}\% = 30\%$

(e) $\frac{1}{40} = [\frac{1}{40} \times 100]\%$

$= \frac{100}{40}\% = 2\frac{1}{2}\%$

(f) $\frac{11}{22} = [\frac{11}{22} \times 100]\%$

$= \frac{1100}{22}\% = 50\%$

(g) $1\frac{2}{5} = \frac{7}{5} = [\frac{7}{5} \times 100]\%$

$= \frac{700}{5} = 140\%$

(h) $\frac{16}{25} = [\frac{16}{25} \times 100]\%$

$= \frac{1600}{5}\% = 64\%$

10. Fill in the blanks with fraction:

Ans. (a) $\frac{1}{5}$ (b) $\frac{9}{10}$ (c) $\frac{1}{2}$

(d) $\frac{5}{8}$ (e) $\frac{11}{5}$ (f) $\frac{89}{200}$

Exercise-29

1. In a class of 80 students 20 are girls. What percentage of the student are girls?

Sol. Total number of students are 80

Number of girls = 20

Percentage $= \frac{20 \times 100}{80}\%$

$= \frac{200}{8}\% = 25\%$

2. Neeru goes to market with ₹ 500. She spends 75% of her money in the market. How much money is left with her?

Sol. Total money = ₹ 500

Money spend = 75%

Money left = ₹ 500 $(\frac{75}{100} \times 500)$

= ₹ 500 – ₹ 375 = ₹ 125

3. In an examination a student scored 240 marks. out of 400, what percentage of marks did he get?

Sol. Total marks = 450

Marks scored = 240

Percentage of marks $= [\frac{240}{400} \times 100]\%$

$= \frac{240}{4}\% = 60\%$

$\therefore$ He got 60% of marks.

4. A steel almirah is priced at ₹ 1540. What will be its new price if the price goes up by 15%

Sol. Original Price = ₹ 1540

Increase in price = 15% of ₹ 1540

New price = $1540 + ₹ [\frac{15}{100} \times 1540]$

$= ₹ 1540 + ₹ [\frac{15 \times 154}{10}]$

= ₹ 1540 + ₹ 231 = ₹ 1771

$\therefore$ New price will be ₹ 1771.

5. In a cricket match India scored 300 runs. 186 runs were scored by Sachin Tendulkar, find the percentage of Tendulkar only.

Sol. Total runs scored by India = 300

Runs scored by Sachin alone = 186

Percentage of runs scored

$= [\frac{186}{300} \times 100]\%$

$= \frac{186}{3}\% = 62\%$

$\therefore$ Tendulkar scored 62% of runs.

6. Khushi scored 82% marks in maths paper. If the maximum marks in the paper was 150, find the total marks scored by her in the paper.

Sol. Maximum marks = 150
Marks scored by Khushi = 82% of 150

$$= \frac{82}{\cancel{100}_{2}} \times \cancel{150}^{3}$$

$$= \frac{82 \times 3}{2} = 123$$

$\therefore$ Khushi scored 123 marks.

7. 26% of the employees in a factory are female and the number of male employees is 555. What is the number of female employees and the total number of employees?

Sol. Percentage of female employees
= 26%
Number of female employees = 555
Now, Percentage of male employees
= (100 – 26)% = 74%

$\because$ 74% of total employees = 555

$\therefore$ Total employees $= \frac{555 \times 100}{74} = 750$

Also, number of female employees
= 750 – 555 = 195

8. Sunil scored 36 marks out of 50 in science and 48 marks out of 60 in maths. In which subject did he perform better?

Sol. Total marks in science = 50
Marks scored = 36

$$\text{Percentage} = [\frac{36}{50} \times 100]\%$$

$$= \frac{360}{50} = 72\%$$

Total marks in maths = 60
Marks scored = 48

$$\text{Percentage} = [\frac{48}{60} \times 100]\%$$

$$= \frac{480}{6} = 80\%$$

$\therefore$ Sunil performed better in maths.

9. The salary of teacher is increased by 12% If the old salary was ₹ 6075. find the salary after increment?

Sol. Old salary = ₹ 6075
Increase in % = 12%
Salary after increment

$$= ₹\,6075 + ₹\,[\frac{\cancel{12}^{3}}{\cancel{100}_{4_1}} \times \cancel{6075}^{243}]$$

$$= ₹\,6075 + (₹3 \times 243)$$
$$= ₹\,6075 + ₹\,729$$
$$= ₹\,6804$$

$\therefore$ Salary after increment = ₹ 6804

10. There are 65% boys in a school. If the number of girls is 840, find the total number of students and total number of boys in the school.

Sol. Percentage of boys = 65%
Number of girls = 840
Percentage of girls = (100 – 65)%
= 35%
Now 35% of total students = 840

So, total students $= \frac{840 \times 100}{35} = 2400$

Total number of boys = 2400 – 840
= 1560

11. There are 1250 children in a school. If 54% of them are boys, find the number of boys and girls in the school.

Sol. Total number of students = 1250

Percentage of boys = 54% $= \frac{54}{100}$

Now, number of boys

$$= (\frac{\cancel{54}^{27}}{\cancel{100}_{2}} \times \cancel{1250}_{25}) = 27 \times 25$$
$$= 675$$

Number of girls
= Total students – Number of boys
= 1250 – 675 = 575

12. In a school library, there are 4250 books. 80% of them are reference books on different subjects. The rest are fiction. Find out how many are reference books and how many are fiction.

Sol. Total books in the library = 4250
Percentage of reference books

$$= 80\% = \frac{80}{100}$$

So, number of reference books

$$= (\frac{80}{100} \times 4250)$$
$$= 8 \times 425 = 3400$$

$\therefore$ There are 3400 reference books in the library

Number of fiction = Total books
– Number of reference books
= 4250 – 3400
= 850

13. Priyanka had ₹ 950 with her. She spent 64% of this amount to buy some clothes. How much money was then left with her?

Sol. Total money with Priyanka = ₹ 950
Percentage of money spent by her
$= 64\% = \frac{64}{100}$
Amount of money spent by her
$= ₹ (\frac{\cancel{64}^{32}}{\cancel{100}_{2}} \times \cancel{950}^{19})$
$= ₹ 32 \times 19 = ₹ 608$
Money left with her
= Total money – money spent
= ₹ 950 – ₹ 608 = ₹ 342

∴ ₹ 342 is left with her.

14. The monthly income of Mr. Singh is ₹ 8400. He spends 78% of this amount on household expenses. If he saves the rest of the amount, how much does he save in a month?

Sol. Monthly income of Mr. Singh
= ₹ 8400
Percentage of money spent by him
= 78% of ₹ 8400
Amount of money spent by him
$= ₹ (\frac{78}{\cancel{100}} \times \cancel{8400})$
$= ₹ 78 \times 84 = ₹ 6552$
Money saved by him
= Total income – Total expenditure
= ₹ 8400 – ₹ 6552 = ₹ 1848

∴ Mr Singh saves ₹ 1848 in a month.

15. There are 3750 people in a village. 18% of them are children below 16 years age. How many children are there in that village?

Sol. Total number of people in the village
= 3750
Percentage of children = 18% of 3750
Number of children $= (\frac{\cancel{18}^{9}}{\cancel{100}_{2}} \times \cancel{3750}^{75})$
= 675

∴ Total number of children is 675

16. There were 1800 children studying in a school in a particular year. In the succeeding year, the number increased by 5%. How many children were studying in the school in that year?

Sol. Number of children studying in the previous year = 1800
Percentage increase in children
= 5% of 1800
Increase in number of children
$= (\frac{5}{100} \times 1800) = 5 \times 18 = 90$
Total children studying in that year
= Number of children in previous year
+ increase in children
= 1800 + 90 = 1890

∴ In that year 1890 children were studying.

17. Raju purchased some articles worth ₹ 650. If he had to pay 12% of the amount as sales tax. how much money did he pay in all?

Sol. Total cost of the articles = ₹ 650
Sales tax = 12% of ₹ 650
Total money to be paid
$= ₹ 650 + (\frac{12^{6}}{100_{2}} \times ₹ 650)$
= ₹ 650 + (₹ 6 × 13)
= ₹ 650 + ₹ 78
= ₹ 728

∴ He has to pay 728 in all.

18. A retailer bought 750 bulbs from the wholesaler. On opening the boxes, he found that % of them were damaged. How many of them were good bulbs?

Sol. Total bulbs bought = 750
Percentage of damaged bulbs
= 4% of 750
Number of good bulbs
$= 750 - (\frac{\cancel{12}^{6}}{\cancel{100}_{2}} \times \cancel{750}^{15})$
= 750 – (2 × 15)
= 750 – 30 = 720

∴ Number of good bulbs is 720

19. The number of people with voting right in a big village is 9425. In a general election, 72% of them casted their votes. How many people in the village casted their votes?

Sol. Total number of people with voting right = 9425
Percentage of people casted their votes
= 72% of 9425
Number of people casted their votes
$= (\frac{\cancel{72}^{18}}{\cancel{100}_{4}} \times \cancel{9425}^{377})$
$= 18 \times 377 = 6786$

∴ Number of people casted their votes is 6786

Exercise-30

1. Find the area of the rectangle whose length and breadth are:

Ans. (a) L = 32 mm, B = 28 mm
A = l × b
= (32 × 28) sqm. = 896 sqm.

(b) L = 21 mm D B = 18 mm
A = l × b
= (21 × 18) sqm = 378 sqm

(c) L = 8 m 12 cm, B = 7 m 20 cm
A = l × b
= (8.12 × 7.20) sqm
= 58.464 sqm

(d) L = 3 m, B = 7m
A = l × b
= (3 × 7) sqm = 21 sqm

(e) L = 20.6 m, B = 17.4 m
A = l × b
= (20.6 × 17.4) sqm
= 358.44 sqm

(f) L = 32.8 m, B = 29.6 m
A = l × b
= (32.8 ×29.6) m
= 970.88 sqm

2. Find the area of the square whose side are:

Ans. (a) S = 15 m
A = $(S)^2 = (5)^2$
= $(15)^2$ = (15 × 15) sqm
= 225 sqm

(b) S = 25 cm
A = $(S)^2 = (25)^2$
= (25 × 25) sqm
= 6255 sqm

(c) S = 10.6 m
A = $(S)^2 = (10.6)^2$
= (10.6 × 10.6) sqm
= 112.36 sqm

(d) Side = 3 m 75 cm
A = $(Side)^2$
= $(3.75)^2$ cm
= (3.75 × 3.75) sqm
= 14.0625 sqm

(e) Side= 36 m
A = $(Side)^2$
= $(36)^2$ m
= (36 × 36) sqm = 1296 sqm

(f) Side= 4 m 28 cm
A = $(Side)^2$
= $(4.28)^2$ sqm
= (4.28 × 4.28) sqm
= 18.3184 sqm

(g) Side = 50 cm
A = $(Side)^2 = (50)^2$ cm
= (50 × 50) sqm = 2500 sqm

(h) Side = 7 m
A = $(Side)^2 = (7\ m)^2$
= (7 × 7) sqm = 49 sqm

3. Find the length of the rectangle whose:

Ans. (a) Area = 104 sq.cm B = 13 cm

$$L = \frac{A}{B} = \left(\frac{104}{13}\right) cm$$

= 8 cm

(b) A = 300 sqm B = 15cm

$$L = \frac{A}{B} = \left(\frac{300}{15}\right) cm$$

= 20 cm

(c) A = 279 sq.cm B = 15 cm

$$L = \frac{A}{B} = \left(\frac{279}{15.5}\right) cm$$

= 18 cm

(d) A = 845 sq.m B = 26 cm

$$L = \frac{A}{B} = \left(\frac{845}{26}\right) cm$$

= 32.5 m

(e) A = 1260 sq.m B = 28 m

$$L = \frac{A}{B} = \left(\frac{1260}{28}\right) cm$$

= 45 m

(f) Area = 6010 sq.m B = 75.2m

$$L = \frac{A}{B} = \left(\frac{6010}{75.2}\right) cm$$

= 79.92

4. Find the breadth of the rectangles whose:

Ans. (a) Area = 816 sqm L = 32 m

$$B = \frac{L}{A} = \left(\frac{816}{32}\right) m = 25.5\ m$$

(b) Area = 327.60 sqm L = 21 m

$$B = \frac{A}{L} = \left(\frac{327.60}{21}\right) m = 15.6\ m$$

(c) Area = 1921.50 sqm L = 45m

$$B = \frac{L}{A} = \left(\frac{1912.50}{45}\right) = 42.5m$$

(d) Area = 1085 sqm L = 35 m

$$B = \frac{A}{L} = \left(\frac{1085}{35}\right) m = 31\ m$$

(e) Area = 2208 sqm L = 48 cm

$B = \frac{A}{L} = (\frac{2208}{48})$ m = 46 cm

(f) Area = 2636.25 sqm L = 55.5 cm

$B = \frac{A}{L} = (\frac{2636.25}{55.5})$ m = 47.5 cm

5. Fill in the blanks (rectangle):

Ans.

	Length	Breadth	Area
(b)	12 cm	7 cm	84 sg cm
(c)	20 cm	15 cm	300 sg cm
(d)	9 m	6 m	54 sg cm
(e)	15 m	12 m	180 sg cm

6. Fill in the blanks (square):

Ans.

	Side	Area	Perimeter
(b)	7 cm	49 sg cm	28 sg cm
(c)	25 cm	625 sg cm	100 sg cm
(d)	30 m	900 sg cm	120 sg cm
(e)	16 m	256 sg cm	64 sg cm

7. Find the area of the top of the table whose length is 1.8 m and breadth is 1.5m.

Sol. Length of the table = 1.8 m
Breadth of the table = 1.5 m
Area of table = L × B
= (1.8 × 1.5) sqm
= 2.7 sqm

∴ Area of the top of the table is 2.7 sqm

8. Find the area of cardboard piece whose length is 3 m and breadth is 60 cm.

Sol. Length of the cardboard piece = 3 m
Breadth of the cardboard piece
= 60 cm = 0.6 m
Area = L × B
= (93 × 0.6) sqm = 1.8 sqm

9. Length and breadth of a room are 18 m and 12 m. How many square tiles of 24 cm each are required to cover the floor of the room?

Sol. Length of the room = 18 m = 1800 cm
Breadth of the room = 12 m = 1200 cm
Area of the room = L × B
= (1800 × 1200) sqcm
= 2160000 sqcm
Now Area of the square of tiles
= 24 cm × 24 cm
= 576 sqcm

∴ Square tiles required

$= \frac{\text{Area of room}}{\text{Area of square files}}$

$= \frac{2160000}{24 \times 24 \text{ cm}^2} = \frac{2160000}{576}$

= 3750

∴ 3750 tiles are required to cover the floor of the room.

10. A park is 200 m long and 180 m board. Find the cost of the levelling it at the rate of ₹ 5 per square metre.

Sol. Length of the park = 200 m
Breadth of the park = 180 m
Area of the park = L × B
= (200 × 180) sqm
= 36000 sqm
Rate of levelling = 5 per square metre

∴ Total cost = ₹ 5 × 36000 sqm
= ₹ 180000

∴ The cost of levelling the park is ₹ 180000

11. A room is 12 m long and 10 m board. How many rectangular tiles of 50 cm × 24 cm size are required to cover the floor of the room? Find the cost of flooring the tiles also, if the cost of one tile is ₹ 125?

Sol. Length of the room = 12 m = 1200 cm
Breadth of the room = 10 m = 1000 cm
Area of the room = L × B
= (1200 × 1000) sqcm
= 1200000 sqcm
Length of the rectangular tile = 50 cm
Breadth of the rectangular tile = 24 cm
Area of the rectangular tile
= (50 × 24) sqcm
= 1200 sqcm
Number of tiles = 10

$= \frac{\cancel{1200000}^{1000}}{\cancel{1200}} = 1000$

∴ 1000 tiles are required to cover the floor of the room
Cost of flooring
= Number of tiles × Cost of tiles
= 1000 × ₹ 125
= ₹ 125000

∴ Cost of flooring = ₹ 125000

12. A room is 15 m long and 13 m board. Find the length of the carpet which cover the floor of the room if the breadth of the carpet is 75 cm.

Sol. Length of the room = 15 m
Breadth of room = 13 m
Area of the room = L × B

$= (15 \times 13)$ sqm
$= 195$ sqm
Now Area = 195 sqm
Breadth of the carpet = 75 cm = 0.75 m
$\because$ Length $= \frac{A}{B}$
$\therefore$ Length of the carpet $= (\frac{195}{.75})$ m
$= 260$ m
$\therefore$ Length of the carpet = 260 m.

13. A park is 250 m long and 225 m broad. Find the cost of grassing on it at the rate of ₹ 10 per square?

Sol. Length of the park = 250 m
Breadth of the park = 225 m
Area of the park = L × B
$= (250 \times 225)$ sqm
$= 56250$ sqm
Now cost of the grassing = ₹ 10 sqm
Total cost $= 56250 \times$ ₹ 10
= ₹ 562500
$\therefore$ The cost of grassing is ₹ 562500

14. Find the perimeter of a rectangle whose length is 6 cm and breadth is 4 cm.

Sol. Length of the rectangle = 6 cm
Breadth of the rectangle = 4 cm
Perimeter $= 2 (l + b)$
$= 2 \times (6 + 4)$ cm
$= 2 \times 10$ cm $= 20$ cm

15. Find the perimeter of a square whose each side is 10 cm.

Sol. Side of the square = 10 cm
Perimeter $= 4 \times$ side
= 4 cm = 40 cm

16. The length of a rectangular garden is twice its breadth. If the breadth is 12 cm find the perimeter of the garden.

Sol. Length of the garden $= 2 \times B$
B = 12 cm
Perimeter $= 2 (l + b)$
$= 2 \times (2 \times 12$ cm $+ 12$ cm$)$
$= 2 \times (24$ cm $+ 12$ cm$)$
$= 2 \times 36$ cm $= 72$ cm

17. The perimeter of a square is 60 m. Find its side.

Sol. Perimeter of the square = 60 m
Side $= (\frac{P}{4})$
$= (\frac{60}{4})$ m = 15 m

Worksheet

1. What is the perimeter of the building? **492 m**

2. What is the area of the roof of the building? **12104 sqm**

3. What is the area of the front door? **4.5 sq m**

4. What is the area of a window? **2.25 sqm**

5. What is the perimeter of the school compound? **2982 m**

6. What is the area of the school compound? **542198 sqm**

15 Volume

Exercise-31

1. Find the volume of each cuboid whose lengths, breadth and height are as follows:

Ans. (a) L = 6 cm, B = 5 cm, H = 3 cm
$V = L \times B \times H$
$= 6 \times 5 \times 3$ cm$^3 = 90$ cm^3

(b) L = 8 cm, B = 4 cm, H = 2cm
$V = L \times B \times H$
$= 8 \times 4 \times 2$ cm$^3 = 64$ cm^3

(c) L = 13 dm, B = 7 dm, H = 6 dm
$V = L \times B \times H$
$= 13 \times 7 \times 6$ dm$^3 = 546$ dm^3

(d) L = 9 m, B = 6.5 m, H = 4 m
$V = L \times B \times H$
$= 9 \times 6.5 \times 4$ m^3
$= 234$ m^3

(e) L = 14.1 m, B = 11m, H = 9.4 m
$V = L \times B \times H$
$= 14.1 \times 11 \times 9.4$ m^3
$= 1457.94$ m^3

2. Fill in the blanks:

Ans.
(a) 16 cm (b) 12 cm
(c) 14 cm (d) 11 cm
(e) 8 cm (f) 4 m
(g) 168 cm^3 (h) 440 cm^3
(i) 140 cm^3 (j) 112.8 cm^3
(k) 230.4 cm^3 (l) 828 cm^3

3. Find the volume of the cube in which each side is as follows:

Ans. (a) 3 cm
Length of the side of the cube
= 3 cm
$\therefore$ $V = 1 \times 1 \times 1$

$= 3 \times 3 \times 3\ cm^3$
$= 27\ cm^3$

(b) 6 cm
Length = 6 cm
$\therefore$ $V = l \times l \times l$
$= 6 \times 6 \times 6\ cm^3$
$= 216\ cm^3$

(c) 8 dm
Length = 8 dm
$\therefore$ $V = l \times l \times l$
$= 8 \times 8 \times 8\ dm^3$
$= 512\ dm^3$

(d) 10 m
Length = 10 m
$\therefore$ $V = l \times l \times l$
$= 10 \times 10 \times 10\ m^3$
$= 1000\ m^3$

(e) 12 m
Length = 12 m
$\therefore$ $V = l \times l \times l$
$= 12 \times 12 \times 12\ m^3$
$= 1728\ m^3$

(f) 4.2 dm
Length = 4.2 dm
$\therefore$ $V = l \times l \times l$
$= 4.2 \times 4.2 \times 4.2\ dm^3$
$= 74.088\ dm^3$

(g) 7.4 cm
Length = 7.4 cm
$\therefore$ $V = l \times l \times l$
$= 7.4 \times 7.4 \times 7.4\ cm^3$
$= 405.224\ cm^3$

(h) 9.5 cm
Length = 9.5 cm
$\therefore$ $V = l \times l \times l$
$= 9.5 \times 9.5 \times 9.5\ cm^3$
$= 857.375\ cm^3$

4. Find the volume of a cube whose edge is 2 cm long.

Ans. Length of the edge = 2 cm
$\therefore$ Volume of the cube $= l \times l \times l$
$= 2 \times 2 \times 2\ cm^3$
$= 8\ cm^3$

5. The length, breadth and height of a cuboid are 8 cm, 5 cm and 4 cm respectively. Find its volume.

Ans. Length of the cuboid = 8 cm
Breadth of the cuboid = 5 cm
Height of the cuboid = 4 cm
$\therefore$ Volume of the cuboid $= l \times b \times h$
$= 8 \times 5 \times 4\ cm^3 = 160\ cm^3$

6. Find the volume of oil that can be contained in a cubical container each of whose side measures 4 m internally.

Sol. Length of the side = 4 m
$\therefore$ Volume of the container $= l \times l \times l$
$= 4 \times 4 \times 4\ m^3 = 64\ m^3$

7. A piece of stone is 20.5 cm long. 15 cm wide and 8.5 cm high. Find the space occupied by 900 such stones.

Sol. Length = 20.5 cm Breadth = 15 cm
Height = 8.5 cm
$V = l \times b \times h = 20.5 \times 15 \times 8.5\ cm^3$
$= 2613.75\ cm^3$
$\because$ Space occupied by 1 stone
$= 2613.75\ cm^3$
$\therefore$ Space occupied by 900 stones
$= 900 \times 2613.75\ cm^3$
$= 2352375\ cm^3$

8. A wall is 10 m long. 3 m wide and 2 m thick. How many bricks each 20 cm long, 10 cm thick and 6 cm thick will be required for construction of the wall?

Ans. Length of the wall = 10 m = 1000 cm
Breadth of the wall = 3 m = 300 cm
Thickness of the wall = 2 m = 200 cm
$\therefore$ Volume $= l \times b \times h$
$= 1000 \times 300 \times 200\ cm^3$
$= 60000000\ cm^3$
Length of the brick = 20 cm
Breadth of the brick = 10 cm
Thickness of the brick = 6 cm
$\therefore$ Volume $= l \times b \times h$
$= 20 \times 10 \times 6\ cm^3$
$= 1200\ cm^3$
Number of bricks required
$= \frac{\text{Volume of the wall}}{\text{Volume of the brick}}$
$= \frac{60000000}{1200} = 50000$
$\therefore$ To construct the wall 50000 bricks are required.

9. Find the volume of the cube whose each edge is:

Ans. (a) 9 cm
Length = 9 cm
$\therefore$ Volume $= l \times l \times l$
$= 9 \times 9 \times 9\ cm^3 = 729\ cm^3$

(b) 7 cm
Length = 7 cm

$\therefore$ Volume $= l \times l \times l$
$= 7 \times 7 \times 7\ cm^3$
$= 343\ cm^3$

(c) 5 cm
Length = 5 cm
$\therefore$ Volume $= l \times l \times l$
$= 5 \times 5 \times 5\ cm^3$
$= 125\ cm^3$

(d) 10 cm
Length = 10 cm
$\therefore$ Volume $= l \times l \times l$
$= 10 \times 10 \times 10\ cm^3$
$= 1000\ cm^3$

10. Find the volume of the cuboid whose diamensions are:

Ans. (a) $l = 6$ cm, $b = 5$ cm, $h = 4$ cm
$V = l \times b \times h$
$= 6 \times 5 \times 4\ cm^3$
$= 120\ cm^3$

(b) $l = 10$ cm, $b = 8$ cm, $h = 5$cm
$V = l \times b \times h$
$= 10 \times 8 \times 5\ cm^3$
$= 400\ cm^3$

(c) $l = 20.4$ cm, $b = 6.5$ cm, $h = 3$ cm
$V = l \times b \times h$
$= 20.4 \times 6.5 \times 3\ cm^3$
$= 397.8\ cm^3$

(d) $l = 3.5$ m, $b = 2.3$ m, $h = 4$ m
$V = l \times b \times h$
$= 3.5 \times 2.3 \times 4\ m^3$
$= 32.2\ m^3$

11. A room in a house is in the shape of cuboid whose length is 15 m, breadth is 10 m and height is 8 m respectively. Find the volume of the space occupied by it.

Sol. Length of the room = 15 m
Breadth of the room = 10 m
Height of the room = 8 m
Volume of the space occupied
$= L \times B \times H$
$= 15 \times 10 \times 8\ m^3$
$= 1200\ m^3$

16 Simple Interest

Exercise-32

1. Find the simple interest and amount:

Ans. (a) P = 1700, R = 4%, T = 6 years
S.I $= P \times R \times T$
$= \frac{1700 \times 4 \times 6}{100} = ₹408$
A $= P + S.I$
$= ₹1700 + ₹408$
$= ₹2108$

(b) P = 1200, R = 3%, T = 9 years
S.I. $= P \times R \times T$
$= \frac{1200 \times 3 \times 9}{100} = ₹324$
A $= P + S.I$
$= ₹1200 + ₹324 = ₹1524$

(c) P = 2450, R = 2%, T = 7 years
S.I $= P \times R \times T$
$= \frac{2450^{49} \times 2 \times 7}{100_5}$
$= 49 \times 7 = ₹343$
A $= P + S.I.$
$= ₹2450 + ₹343 = ₹2793$

(d) P = 2110, R = 9%, T = 3 years
S.I. $= P \times R \times T$
$= \frac{2110 \times 9 \times 3}{100}$
$= \frac{5697}{10} = ₹569.7$
A $= P + S.I$
$= ₹2110 + ₹569.7 = ₹2679.7$

(e) P = 1000, R = 5%, T = 7 years
S.I $= P \times R \times T$
$= \frac{1000 \times 5 \times 7}{100} = ₹3500$
A $= P + S.I$
$= ₹10000 + ₹3500 = ₹13500$

(f) P = 100, R = 100%, T = 100 years
S.I. $= P \times R \times T$
$= \frac{100 \times 100 \times 100}{100} = ₹10000$
A $= P + S.I$
$= ₹100 + ₹10000 = ₹10100$

(g) P = ₹2970, R = 20%, T = 4 years
S.I $= P \times R \times T$
$= \frac{2970 \times 20 \times 4}{100} = ₹2376$
A $= P + S.I$
$= ₹2970 + ₹2376 = ₹5346$

(h) P = ₹2410, R = 14%, T = 3 years
S.I. $= P \times R \times T$
$= \frac{2410 \times 14^{7} \times 3}{100_5}$
$= \frac{5061}{5} = ₹1012.2$

A = P + S.I
= ₹ 2410 + ₹ 1012.2 = ₹ 3422.2

(i) P = ₹ 7000 R = 11% T = 2 years
S.I. = P × R × T
$= \frac{7000 \times 11 \times 2}{100} = ₹1540$
A = P + S.I
= ₹ 7000 + ₹ 1540 = ₹ 8540

(j) P = ₹ 8050 R = 7% T = 9 years
S.I. = P × R × T
$= \frac{8050 \times 7 \times 9}{100} = ₹ 5071.5$
A = P + S.I
= ₹ 8050 + ₹ 5071.5
= ₹ 13121.5

2. Find the simple interest on ₹ 15750 at 15% per annum for the period from 21st January 2009, to 21st January 2010. Also find the amount.

Sol. Here, Principal = 15750
Rate = 15% and
period = 21st January 2009 to 21st January 2010 = 1 year

$\therefore$ S.I = P × R × T
$= \frac{15750 \times 15 \times 1}{100}$
= ₹ 2362.5
Amount = Principal + Simple Interest
= ₹ 15750 + ₹ 2362.5
= ₹ 18112.5

3. For how many years should ₹ 10000 be deposited in a company to get ₹ 14800 as amount of 10% per annum simple Interest?

Sol. Here P = ₹ 10000, A = 14800,
R = 10% T = ?

$\because$ S.I = P × R × T

$\therefore$ $T = \frac{S.I.}{P \times R}$

$\therefore$ S.I = A – P
= ₹ 14800 – ₹ 10000 = ₹ 4800

$T = \frac{4800}{10000 \times \frac{10}{100}}$

$= \frac{4800 \times 100}{100000 \times 10}$

$= \frac{48}{10} = 4\frac{4}{5}$ years

4. At what rate per cent per annum should ₹ 5000 be given to get ₹ 7520 as amount at the end of 3 years?

Sol. Here A = ₹ 7520, P = ₹ 5000, R = ?
T = 3 years

Now, $R = \frac{S.I. \times 100}{P \times T}$

and S.I. = A – P
S.I = ₹ 7520 – ₹ 5000 = ₹ 2520

So, $R = \frac{2520^{84} \times 100}{5000 \times 3}$

$= \frac{84}{5} = 16\frac{4}{5}$

$\therefore$ $R = 16\frac{4}{5}\%$

5. What sum will amount to ₹ 580 at 8% per annum at the end of 2 years?

Sol. Let P be the principal.

$\because$ Then $S.I. = \frac{P \times R \times T}{100}$

$= \frac{P \times 8 \times 2}{100} = ₹ \frac{16P}{100} = \frac{4P}{25}$

$\therefore$ We know that A = P + S.I.

$\Rightarrow$ $580 = P + \frac{4P}{25}$

$\Rightarrow$ $580 = \frac{25P + 49}{25}$

$\Rightarrow$ $\frac{580}{1} = \frac{29P}{25} \Rightarrow 29P = 25 \times 580$

$\because$ $P = \frac{25 \times 580}{29} = ₹ 500$

$\therefore$ The sum is ₹ 500.

6. The simple interest on a certain sum of money at 5% per annum for 3 years is ₹ 144. Find the sum.

Sol. Here S.I = ₹ 144, R = 5%, T = 3 years,
P = ?

Now, $P = \frac{S.I. \times 100}{R \times T} = \frac{144^{48} \times 100^{20}}{5 \times 3_1}$
= 48 × 20 = ₹ 960

$\therefore$ The sum is ₹ 960

7. A man deposited ₹ 25000 for 5 years in a bank which paid him interest at the rate of 8% per annum. What amount did he get back?

Sol. Here, P = ₹ 25000, R = 8%, T = 5 years
For amount first we will find interest

$\because$ $S.I. = \frac{P \times R \times T}{100} = \frac{25000 \times 8 \times 5}{100}$

= ₹ 1000

$\therefore$ The sum is ₹ 10000
Now, Amount = Principal + Interest
= ₹ 25000 + ₹ 1000
= ₹ 35000

$\therefore$ He will get ₹ 35000 as amount.

8. Sheela borrowed ₹1500 from a money lender at 9% per annum for 5 years. Find the interest she had pay to the money lender after 5 yrs. Also find the amount she had to pay after 5 yrs.

Sol. Here, P = ₹ 1500, R = 9%, T = 5 years

$$\text{S.I.} = \frac{P \times R \times T}{100}$$

$$= \frac{1500 \times 9 \times 5}{100} = ₹\ 675$$

Now, Amount = Principal + Interest
= ₹ 1500 + ₹ 675
= ₹ 2175

∴ Sheela has to pay ₹ 675 as interest. She has to pay ₹ 2175 after 5 years.

9. Suresh borrowed ₹ 650 from Kirti at 8% per annum. He returned the money after 6 months. How much amount in all did he pay to Kirti?

Sol. Here P = ₹ 650, R = 8%

T = 6 month or $\frac{1}{2}$ years

For finding amount first we will find out interest

$$\text{S.I.} = \frac{P \times R \times T}{100}$$

$$= \frac{650 \times 8^{4} \times 1}{100 \times 2} = ₹\ 26$$

Now, Amount = Principal + Interest
= ₹ 650 + ₹ 26 = ₹ 676

∴ After 6 months Suresh has to pay ₹ 676 to Kirti.

10. The simple interest on ₹ 5860 at 10% per annum for a certain time is ₹ 1465. Find the time.

Sol. Here, P = ₹ 5860, R = 10%
S.I = ₹ 1465, T = ?
We know that

$$T = \frac{\text{S.I.} \times 100}{P \times R}$$

$$= \frac{1465 \times 100}{5860 \times 10} = = \frac{1465}{86} = 2\frac{1}{2}$$

∴ The time period is $2\frac{1}{2}$ years.

11. The simple interest ₹ 1550 for 3 years at a certain rate of interest is ₹ 568. Find the rate.

Sol. Here, P = ₹ 1550, S.I = ₹ 568
T = 3 years, R = ?
We know that,

$$R = \frac{\text{S.I.} \times 100}{P \times T}$$

$$= \frac{568 \times 100}{1550 \times 3} = \frac{5680^{1136}}{465_{93}} = 12.2$$

∴ The mate of interest is 12.2%

12. The simple interest on a certain sum of money at 18% per annum for 2 years is ₹ 225. Find the sum.

Sol. Here S.I = ₹ 225, R = 18%
T = 2 years, P = ?
We know that

$$P = \frac{\text{S.I.} \times 100}{P \times R}$$

$$= \frac{225^{25} \times 100^{50^{25}}}{{}_{1}\cancel{9}\,18 \times 2}$$

$$= 25 \times 25 = ₹\ 625$$

∴ The sum is ₹ 625

13. For how many years should ₹ 10000 be deposited in a company to get ₹14800 as amount at 16% per annum simple interest?

Ans. Here, A = ₹ 14800, P = ₹ 10000
R = 16%, T = ?
To calculate time first we will find out the interest
Now, Interest = A – P
= ₹ 14800 – ₹ 10000
= ₹ 4800

Now $T = \frac{\text{S.I.} \times 100}{P \times R}$

$$= \frac{4800^{3} \times 100}{10000 \times 16_{1}} = 3$$

∴ The time period is 3 years.

14. At what rate per cent annum should ₹ 6000 be given to get ₹ 8520 as amount at the end of 3 years?

Ans. Here, A = ₹ 8520, P = ₹ 6000
T = 3 years, R = ?
To calculate rate per cent first we will find out the interest
Now, Interest = Amount – Principal
= ₹ 8520 – ₹ 6000
= ₹ 2520

Now $R = \frac{\text{S.I.} \times 100}{P \times R}$

$$= \frac{{}^{14}\cancel{42}\,2520 \times 100}{6000 \times 3} = 14$$

∴ The rate per cent is 14%

15. A man borrowed ₹600 at 5% per annum. At the end of 3 years, he paid back an amount of ₹400 and gave his watch for the balance amount. Find the cost of the watch.

Sol. Here, P = ₹ 600, R = 5%

$T = 3\frac{1}{2}$ years or $\frac{7}{2}$ years and

A = ₹ 400 + watch

To calculate the cost of watch first we will calculate interest to find out the amount.

We know that

$$\text{S.I.} = \frac{P \times R \times T}{100}$$

$$= \frac{\cancel{600}^{3} \times 5 \times 7}{\cancel{100} \times \cancel{2}_{1}}$$

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

Now, Amount = Principal + Interest

= ₹ 600 + ₹ 105

= ₹ 705

∴ The cost of watch

= amount calculated – a mount given

= ₹ 705 – ₹ 400 = ₹ 305

∴ The cost of watch is ₹ 305

17 Profit and Loss

Exercise-33

1. Find the gain of loss in each of the following:

Ans. (a) CP = ₹ 890, SP = ₹ 500

Here CP > SP ∴ Loss

Loss = CP – SP

= ₹ 890 – ₹ 500 = ₹ 390

(b) CP = ₹ 1020, SP = ₹ 1200

Here SP > CP ∴ Gain

Gain = SP – CP

= ₹ 1200 – ₹ 1020 = ₹ 180

(c) CP = ₹ 714, SP = ₹ 714

Here CP = SP

∴ Neither gain nor loss

(d) CP = ₹ 37000, SP = ₹ 31500

Here CP > SP ∴ Loss

Loss = CP – SP

= ₹ 37000 – ₹ 31500 = ₹ 5500

(e) CP = ₹ 8217, SP = ₹ 7215

Here CP > SP ∴ Loss

Loss = CP SP

= ₹ 8217 – ₹ 7215 = ₹ 1002

(f) CP = ₹ 9185, SP = ₹ 10100

Here SP > CP ∴ Gain

Gain = SP – CP

= ₹ 10100 – ₹ 9185 = ₹ 915

(g) CP = ₹ 440, SP = ₹ 210

Here CP > SP ∴ Loss

Loss = CP – SP

= ₹ 440 – ₹ 210 = ₹ 230

(h) CP = ₹ 2000, SP = ₹ 440

Here CP > SP ∴ Loss

Loss = CP – SP

= ₹ 2000 – ₹ 440 = ₹ 1560

(i) CP = ₹ 1, SP = 50 paise

Here CP > SP ∴ Loss

Loss = CP – SP

= ₹ 1 – 50 paise

or 100 paise – 50 paise

= 50 paise

2. Ravi earned a profit of ₹ 310.00 by selling a log of wood for ₹ 4225.00. Find his cost price.

Sol. Here profit earned by ravi = ₹ 310.00,

Selling price of wood = ₹ 4225.00

Cost Price = Selling Price – Profit

= ₹ 4225 – ₹ 310

= ₹ 3915

3. A shopkeeper sold a saree for ₹ 3100 at a loss of ₹ 225. Find the cost price of the saree.

Sol. Selling price of the saree = ₹ 3100

Loss = ₹ 225

Cost Price = Selling Price + Loss

= ₹ 3100 + ₹ 225

= ₹ 3325

4. A shopkeeper buys one dozen of electric bulbs for ₹ 156.65. He loses ₹ 11.80 for selling them. Find his selling price.

Sol. Cost price of bulbs = ₹ 156.25

Loss = 11.80

SP of bulb = CP – Loss

= ₹ 156.25 – ₹ 11.80

= ₹ 144.85

5. A man bought radio set for ₹ 825.25. He sold it with a profit of ₹ 15.75. Find the selling price of the radio set.

Sol. Cost price of radio set = ₹ 825.25

Profit = ₹ 15.75

SP of radio set = CP + Profit

= ₹ 825.25 + ₹ 15.75

= ₹ 841

6. A merchant bought a bed set for ₹ 3440.00 and he spent ₹ 55.00 on

labour charges to bring it to his shop. He sold the bed set for ₹ 3720.00. Find his gain or loss.

Sol. Cost price of bed set = ₹ 3440.00
Amont spent on labour charges
= ₹ 55.00

∴ Total cost price
= ₹ 3440.00 + ₹ 55.00
= ₹ 3495
Selling price = ₹ 3720
Here selling price is more, therefore we will get profit.
Now, Gain = SP – CP
= ₹ 3720 – ₹3495 = ₹ 225

7. A person buys an old bicycle for ₹ 550.75 and sells it to his friend for ₹ 475.30. Find his gain or loss.

Sol. Cost price of bicycle = ₹ 550.75
Selling price of bicycle = ₹ 475.30
Here SP is less than CP
He will suffer loss
Loss = CP – SP
= ₹ 550.75 – ₹ 475.30
= ₹ 75.45

8. A shopkeeper bought a table for ₹ 2100 and sold it to a customer for ₹ 2250. Find his gain or loss.

Sol. Cost price of table = ₹ 2100
Selling price of table = ₹ 2250
Here SP is more than CP
He will get profit
Gain = SP – CP
= ₹ 2250 – ₹ 2100
= ₹ 150

9. Find the profit if selling price is ₹ 863 and cost price is ₹ 700.

Sol. Cost price = ₹ 700
Selling price = ₹ 863
Profit = SP – CP
= ₹ 863 – ₹ 700
= ₹ 163

10. Sohan bought a football for ₹ 250 and sells it at ₹ 150. What is his profit or loss?

Sol. Cost price of football = ₹ 250
Selling price of football = ₹ 150
Here SP is less than CP
He will suffer loss
Loss = CP – SP
= ₹ 250 – ₹ 150
= ₹ 100

11. Bimla bought a T.V. set for ₹ 10625 and paid ₹ 58 for its transportation. She sold it for ₹ 12500. What was her profit?

Sol. Cost price of T.V. set = ₹ 10625
Transportation charges = ₹ 58

∴ Total cost price = ₹ 10625 + ₹ 58
= ₹ 10683
Selling price of T.V. set = ₹ 12500
Here SP is more than CP
She will receive profit
Profit = SP – CP
= ₹ 12500 – ₹ 10683
= ₹ 1817

12. A shopkeeper sold a tin of oil for ₹ 225 making profit of ₹ 24. Find the cost price.

Sol. Selling price of the of oil = ₹ 225,
profit = ₹ 24
Cost price of tin = SP – Profit
= ₹ 225 – ₹ 24
= ₹ 201

13. An umbrella is bought at ₹ 120. It is sold at a loss of ₹ 8.50 At what price was the umbrella sold?

Sol. Cost price of umbrella = ₹ 120
Loss = 8.50

∴ Selling price of umbrella = CP – Loss
= ₹ 120 – ₹ 8.50
= ₹111.50

14. A scooter is bought at ₹ 18500. At what price should it be sold to make a profit of ₹1500?

Sol. Cost price of scooter = ₹ 18500
Profit required = ₹1500
Selling price of scooter
= CP + Profit
= ₹ 18500 + ₹1500
= ₹ 20000

15. A fruit seller bought 480 bananas at ₹ 24 a dozen. 60 bananas were rotten. What should be his profit or loss if he sells the rest at ₹22 per dozen?

Sol. Bananas bought = 480 bananas
= 480 ÷ 12
= 40 dozens
Cost price = ₹ 24 a dozen
= ₹ 24 × 40
= ₹ 960
Bananas got rotten = 60
= 60 ÷ 12 = 5 dozens

Bananas remain (dozens)
= 40 – 5
= 35 dozens
Selling price = ₹ 22 per dozen
= ₹ 22 × 35 = ₹ 770
Here CP is more than SP. He will suffer loss
Loss = CP – SP
= ₹960 – ₹770 = ₹ 190

16. Cheena bought an almirah for ₹ 1200. At what price should it be sold to get a profit of ₹ 375?

Sol. Cost price of almirah = ₹ 1200
Profit required = ₹ 375
Selling price = CP + Profit
= ₹ 1200 + ₹ 375
= ₹ 1575

17. Sonia earned a profit of ₹ 980 by selling her necklace for ₹ 18.000. What was the cost price of the necklace?

Sol. Selling price of necklace = ₹ 18,000
Profit earned = ₹ 980
∴ Cost price of necklace
= SP – Profit
= ₹18000 – ₹ 980 = ₹17020

18. A car was sold by Mohan for ₹ 48,000. In this way he makes a profit of ₹ 3,000. Find the cost price of the car.

Sol. Selling price of car = ₹ 48000
Profit earned = ₹ 3000
∴ Cost price of car = SP – Profit
= ₹48000 – ₹ 3000
= ₹45000

19. By selling an article for ₹ 790, there is a loss of ₹ 98. What was the cost price of the article?

Sol. Selling price of article = ₹ 790
Loss suffered = ₹ 98
Cost price = SP + Loss
= ₹ 790 + ₹ 98 = ₹ 888

20. A chair was bought for ₹697. At what price should it be sold to gain ₹69?

Sol. Cost price of chair = ₹ 697
Gain required = ₹ 69
∴ Selling price of chair
= Cost price + Gain
= ₹ 697 + ₹ 69 = ₹ 766

21. A VCR was sold for ₹ 11,000 at a loss of ₹ 960. What was the cost price?

Sol. Selling price of VCR = ₹ 11,000
Loss suffered = ₹ 960
∴ Cost price of VCR
= SP + Loss
= ₹ 11,000 + ₹ 960
= ₹ 11,960

22. Raju earned a profit of ₹ 1,250 by selling a printer for ₹ 7,500. What was the cost price of the printer?

Sol. Selling price of printer = ₹ 7500
Profit earned = ₹ 1250
∴ Cost price of printer
= SP – Profit
= ₹ 7500 – ₹ 1250
= ₹ 6250

23. A TV was sold for ₹ 12,900 at a loss of ₹ 970. What was the cost price of the TV?

Sol. Selling price of TV = ₹ 12,900
Loss suffered = ₹ 970
Cost price of TV set
= SP + Loss
= ₹ 12,900 + ₹970
= ₹ 13870

24. A shopkeeper buys 20 pairs of shoes for ₹ 210 each. He make a profit of ₹ 200 by selling all of them. At what price did he sell each pair.

Sol. Cost price of 1 pair of shoes = ₹ 210
Cost price of 20 pairs of shoes
= ₹ 210 × 20
= ₹ 4200
Profit earned = ₹ 200
∴ Selling price of 20 pairs of shoes
= ₹ 4200 + ₹ 200
= ₹ 4400
∴ Selling price of 1 pair of shoes
= ₹ 4400 ÷ 20
= ₹ 220
∴ He sold each pair at a price of ₹ 220.

Worksheet

Solve the following :

1. ₹ 35694
2. ₹ 73200
3. Paid more; ₹ 501
4. Yes, ₹ 5
5. ₹ 65500