Ratio and Proportion

Exercise 8.1

Solution-01:

(i) $20:40$

$$20:40 = \frac{20}{40}$$

$$= \frac{2}{4}$$

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

$$= 1:2$$

$20:40$ simplest form is $1:2$

(ii) $40:20 = \frac{40}{20}$

$$= \frac{4}{2}$$

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

simplest form $= 2:1$

(iii) $81:108 = \frac{81}{108}$

$$= \frac{9}{12}$$

$$= \frac{3}{4}.$$

(iv) $98:63 = \frac{98}{63}$

$$= \frac{14}{9}$$

$\therefore$ Simplest form is $14:9$

Solution-02:

(i) $\frac{14}{21} = \frac{\cdots}{3} = \frac{6}{\cdots}$

$\frac{14}{21} = \frac{7\times2}{7\times3} = \frac{2}{3}$

$\frac{14}{21} = \frac{7\times2\times3}{7\times3\times3} = \frac{7\times6}{7\times9}$

$= \frac{6}{9}$

(or) $\frac{2}{3} = \frac{6}{\cdots}$

$\frac{2\times3}{3\times3} = \frac{6}{\cdots}$

$\frac{6}{9} = \frac{6}{\cdots}$

$\therefore \frac{14}{21} = \frac{2}{3} = \frac{6}{9}$

(ii) $\frac{15}{18} = \frac{\cdots}{6} = \frac{10}{\cdots} = \frac{\cdots}{30}$

$\frac{15}{18} = \frac{\cdots}{6}$

Since ratio of a fraction both in terms (numerator and denominator) can be divided or multiplied by the same number

$\frac{15\times6}{18\times6}$

$\frac{15}{18} = \frac{\cdots}{6}$

$\frac{15\div3}{18\div3} = \frac{\cdots}{6}$

$\frac{5}{6} = \frac{\cdots}{6}$

$\left[\frac{10}{\cdots} = \frac{\cdots}{30}\right]$

$$\frac{5}{6} = \frac{10}{\cdots}$$

Multiply Nr & Dr by '2' L.H.S.

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

$$\frac{10}{12} = \frac{\cdots}{30}$$

Multiply Nr & dr by 2.5 on L.H.S

$$\frac{10 \times 2.5}{12 \times 2.5} = \frac{25}{30}$$

$$\frac{15}{18} = \frac{5}{6} = \frac{10}{12} = \frac{25}{30}$$

Solution-03:

(1) 2.1 m to 1.2 m

∴ Ratio of 2.1m to 1.2m.

$1 m = 100 cm$

$2.1 m = 2.1 \times 100$

$= 210 cm$

$1.2 m = 1.2 \times 100$

$= 120 cm$

$\therefore 2.1 m \text{ to } 1.2 m = \frac{2.1 m}{1.2 m}$

$= \frac{210 cm}{120 cm}$

$= \frac{210 \div 30}{120 \div 30}$

$\therefore$ 2.1m : 1.2m = $\frac{7}{4}$

= 7 : 4

Hence, the required ratio in simplest form is 7 : 4.

(ii) 91 cm to 1.04m

convert the given quantities in same units

1.04m = 1.04 x 100 cm = 104 cm

$\therefore$ Ratio of 91 cm to 104 cm = $\frac{91 \text{ cm}}{104 \text{ cm}}$

$= \frac{7}{8} = 7 : 8$

(iii) 3.5 kg to 250gm

convert the given quantities in same units

3.5 kg = 3.5 (1000 gm)

= 3500gm.

$\therefore$ Ratio of 3.5 kg to 250gm = $\frac{3500\text{gm}}{250\text{gm}}$

$= \frac{3500 \div 100}{250 \div 100}$

$= \frac{350}{25}$

$= \frac{35 \times 2}{2.5 \times 2}$

$= \frac{70}{5}$

$= \frac{14}{1} = 14 : 1$

(iv). 60 Paise to 4 Rupees.

Convert the given quantities in same units

4 Rupees = 4 × 100 Paise

= 400 Paise $\therefore \frac{60}{400} = \frac{6}{40} = \frac{3}{20}$

(v) 1 minute to 15 seconds

convert the given quantities in same units.

1 minute = 60 seconds

Ratio of 1 minute to 15 seconds $= \frac{60 \text{ sec}}{15 \text{ sec}}$

$= \frac{60 \div 3}{15 \div 3}$

$= \frac{20}{5}$

$= 4:1$

(vi) 15 mm to 2cm

convert the given quantities in same units

2cm = 2 × 10 mm

= 20 mm.

$\therefore$ Ratio of 15mm to 2cm $= \frac{15\text{mm}}{2\text{cm}}$

$= \frac{15\text{ mm}}{20\text{ mm}}$

$= \frac{3}{4}$

$= 3:4.$

Solution - 04:

Length of the park = 125 m

breadth of the park = 60 m.

Ratio of length and breadth = $\frac{125\text{ m}}{60\text{ m}} = \frac{125 \div 5}{60 \div 5}$

$= \frac{25}{12}$

$= 25 : 12.$

Solution-05:

Population of Village = 4800

Number of females = 2160.

Number of Males = Total - female

$= 4800 - 2160$

$= 2640.$

$\therefore$ Ratio of males to female $= \frac{2640}{2160}$

$= \frac{2640 \div 10}{2160 \div 10}$

$= \frac{264}{216}$

$= \frac{264 \div 6}{216 \div 6} = \frac{44}{36}$

$= \frac{44 \div 4}{36 \div 4} = \frac{11}{9}.$

$\therefore$ Ratio is 11:9

Solution -06:

Number of Boys = 30

Number of girls = 25

Total students = 30 + 25

= 55

(i) Ratio of boys to girls $= \frac{30}{25}$

$= \frac{30 \div 5}{25 \div 5}$

$= \frac{6}{5}$

(ii) Ratio of girls to total students $= \frac{25}{55}$

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

$= \frac{5}{11}$

(iii) Ratio of boys to total students : $\frac{30}{55}$

$= \frac{30 \div 5}{55 \div 5}$

$= \frac{6}{11}$.

∴ Ratio of boys to total students = 6 : 11.

Solution-07:

Reena Income = 1,50,000

Savings = 50,000

(i) Ratio of Reena earning to the saving

$$= \frac{1,50,000}{50,000}$$

$$= \frac{150000/10000}{50,000/10000}$$

(Divide by 10,000 Num & Dr)

$$= \frac{15}{5}$$

$$= \frac{3}{1}$$

$$= 3:1.$$

(ii) Ratio of savings to the mone Reena spends.

Reena spends money = Income - saving

$$= 1,50,000 - 50,000$$

$$= 1,00,000.$$

∴ Ratio of saving to Reena spending money.

$$= \frac{1,00,000}{50,000}$$

multiply divide by 10,000 Num & Dr

$$= \frac{1,00,000/10,000}{50,000/10,000}$$

$$= \frac{10}{5} = \frac{2}{1} = 2:1$$

Solution-08:

(i) original expenses = 350

increased expenses = 500

increase in expense = 500 - 350

= 150

increase in expense to original expense

$$= \frac{150 \div 10}{350 \div 10}$$ [Div Nu & Dr by 10]

$$= \frac{15}{35}$$

$$= \frac{15 \mid 5}{35 \mid 5}$$

$$= \frac{5}{7}$$

(ii) original expenses to increased expenses

$$= \frac{350}{500}$$

divide Nr & Dr by 10

$$= \frac{350 \mid 10}{500 \mid 10}$$

$$= \frac{35}{50}$$

divide Nr & Dry by 5

$$= \frac{35 \mid 5}{50 \mid 5}$$

$$= \frac{7}{10}$$

(iii) increased expenses to increase in expenses

$$= \frac{500}{150}$$

divide Nr & Dr by 10

$$= \frac{500 \mid 10}{150 \mid 10}$$

$$= \frac{50}{15}$$

divide Nr & dr by 5

$$= \frac{50 \mid 5}{15 \mid 5}$$

$$= \frac{10}{3}.$$

Solution-09:-

Mr. Mahajan income = 20,900.

Mr. Mahajan wife's income = 18700.

Total income = 20,900 + 18700

= ₹ 39,600.

(i) Mr. mahajan's income to his wife's income

$$= \frac{\overset{19}{\cancel{20,900}}}{\underset{17}{\cancel{18,700}}}$$

$$\left[\because \frac{209 \div 11}{187 \div 11} = \frac{19}{17}\right]$$

∴ Ratio = 19:17

(ii) Mrs Mahajan's income to both income

$$= \frac{18,700}{39,600}$$

divide Nr & dr by 100

$$= \frac{18700/100}{39,600/100}$$

$$= \frac{187}{396}$$

divide Nr & dr by 11

$$= \frac{187/11}{396/11}$$

$$= \frac{17}{36}$$

Solution-10:-

Total students = 30

football likes by → 6 students

cricket likes by → 12 students

Tennis likes by = Total - football - cricket

= 30 - 6 - 12

= 12.

(i) no of students like football to no of students like tennis = $\frac{6}{12}$

$= \frac{1}{2}$

= 1 : 2

(ii) no. of Students liking cricket to total number of Students $= \frac{12}{30}$

$= \frac{12 \div 6}{30 \div 6}$

$= \frac{2}{5}$

Solution-11.

Here the two terms of the ratio 3:2 are 3 and 2

Sum of the these terms $= 3+2 = 5$

This means that if the money divided into 5 equal parts then Ramu should get 3 parts and Munni should get 2 parts

Ramu should get $\frac{3}{5}$ of total money &

Munni Should get $\frac{2}{5}$ of total money.

Ramu should get $= \frac{3}{5} \times 560^{112}$

$= 3 \times 112$

$= 336.$

Munni Should get $= \frac{2}{5} \times 560$

$= 2 \times 112$

$= 224$

Solution-12 :-

Total investment = 15,000 + 25,000

= 40,000.

$$\text{Invested Ratio} = \frac{15000}{25000}$$

$$= \frac{15,000 \div 1000}{25,000 \div 1000}$$

$$= \frac{15}{25} = \frac{15 \div 5}{25 \div 5}$$

$$= \frac{3}{5}$$

Total profit = ₹ 12,000.

12,000 to be divide in the ratio 3:5

Here, the two terms of the ratio 3:5 are 3 and 5

Sum of these terms 3 + 5 = 8

This means that if the money is divided into 8 equal parts then that will be 3 parts to one person and another will get 5 parts of the total money.

∴ one will get $\frac{3}{8}$ part of total money

$$\text{i.e} = \frac{3}{8} \times \overset{1500}{12,000}$$

= 4,500/-

∴ other will get $\frac{5}{8}$ part of total money

$$\text{i.e} = \frac{5}{8} \times \overset{1500}{12,000} = ₹ 7,500/-$$

solution -13:-

Given, ratio of money has by Ankur and Roma is 9:11.

$\Rightarrow \frac{\text{money with Ankur}}{\text{money with Roma}} = \frac{9}{11}$ but money with Roma Ankur is 540

$\Rightarrow \frac{540}{\text{money with Roma}} = \frac{9}{11}$

$\Rightarrow$ money with Roma $= 540 \times \frac{11}{9} = 60 \times 11 = ₹660$

Hence, money with Roma ₹660.

Solution- 14:-

Given, the ratio of tin and zinc is 2:5.

$\Rightarrow \frac{\text{tin}}{\text{zinc}} = \frac{2}{5}$ but zinc $= 31.5g$

$\Rightarrow \frac{\text{tin}}{31.5 \text{ zinc}} = \frac{2}{5}$

$\Rightarrow$ tin $= \frac{2}{5} \times 31.5$ (6.3)

$\Rightarrow$ tin $= 12.6$

tin + zinc = 31.5g

2 + 5 parts = 31.5 gms

One part $= \frac{31.5 \text{ gms}}{7}$

$= 4.5$ gms

So that

tin $= \frac{2}{9} \times 4.5$

$= 9$

zinc $= 5 \times 4.5$

$= 22.5$

Exercise - 8.2

Solution-01:-

(i) 4:6 and 12:18

Expressing both ratios in simple terms, we get

$$4:6 = \frac{4}{6} = \frac{2}{3} \text{ and } \frac{12}{18} = \frac{12 \div 6}{18 \div 6} = \frac{2}{3}$$

As $\frac{2}{3} = \frac{2}{3}$, the given ratios are in proportion

(ii) 15:45 and 40:120

Expressing both ratios in simple terms, we get

$$15:45 = \frac{15}{45} = \frac{3}{9} = \frac{1}{3} \text{ and } 40:120 = \frac{40}{120} = \frac{1}{3}.$$

As $\frac{1}{3} = \frac{1}{3}$, the given ratios are in proportion

(iii) 14:4 and 18:6

expressing both ratios in simple terms, we get

$$14:4 = \frac{14}{4} = \frac{7}{2} \text{ and } \frac{18}{6} = \frac{6}{2} = \frac{3}{1}.$$

As $\frac{7}{2} = \frac{3}{1}$. the given ratios do not form a proportion.

(iv) 12:18 and 28:12

$$12:18 = \frac{12}{18} = \frac{2}{3} \text{ and } \frac{28}{12} = \frac{14}{6} = \frac{7}{3}$$

As $\frac{2}{3} = \frac{7}{3}$; the given ratios do not form a proportion.

Solution-02:-

(i) $16:24 = 20:30$

Expressing both ratios in simplest terms, we get

$16:24 = \frac{16}{24} = \frac{2}{3}$ and $20:30 = \frac{20}{30} = \frac{2}{3}$.

As $\frac{2}{3} = \frac{2}{3}$, the given ratios are in proportion

True

(ii) $16:24 = 30:20$.

Expressing both ratios in simple terms, we get

$16:24 = \frac{16}{24} = \frac{2}{3}$ and $30:20 = \frac{30}{20} = \frac{3}{2}$.

As $\frac{2}{3} \neq \frac{3}{2}$, the given ratios do not form a proportion.

(iii) $21:6::35:10$.

We want to check whether 21, 6, 35, 10 are in proportion or not

Here, Product of extremes $= 21 \times 10 = 210$.

and product of means $= 6 \times 35 = 210$.

Hence, 21, 6, 35 & 10 are in proportion.

(iv) ~~5::2~~ $5.2:3.9::3:4$

We want to check whether 5.2, 3.9, 3, 4 are in proportion or not

Here, Product of extremes $= 5.2 \times 4 = 20.8$

product of means $= 3.9 \times 3 = 11.7$.

Hence, 5.2, 3.9, 3 & 4 are in not in proportion.

Solution-03

(i) 12, 16, 6, 8.

We want to check whether 12, 16, 6 and 8 are in proportion or not.

Here Product of extremes = $12 \times 8 = 96$

Product of means = $16 \times 6 = 96$

Hence, 12, 16, 6 and 8 are in proportion.

(ii) 2, 3, 4, 5

We want to check whether 2, 3, 4 and 5 are in proportion or not

Here, Product of extremes = $2 \times 5 = 10$

Product of means = $3 \times 4 = 12$.

Hence, 2, 3, 4 and 5 are in not in proportion.

(iii) 18, 10, 9, 5.

We want to check whether 18, 10, 9 and 5 are in proportion or not

Here, Product of extremes = $18 \times 5 = 90$

product of means = $10 \times 9 = 90$.

Hence, 18, 10, 9 and 5 are in proportion.

(iv) 18, 9, 10, 5.

We want to check whether 18, 9, 10 and 5 are in proportion or not

Here, Product of extremes = $18 \times 5 = 90$

product of means = $9 \times 10 = 90$.

Hence, 18, 9, 10 and 5 are in proportion

Solution-04:

(i) $39\,kg : 36\,kg = 26\ men : 24\ men$.

$$39\,kg : 36\,kg = \frac{39\,kg}{36\,kg} = \frac{13}{12}$$

$$26\ men : 24\ men = \frac{26\ men}{24\ men} = \frac{13}{12}$$

$\therefore$ As $\frac{13}{12} = \frac{13}{12}$, the given ratios are in proportion.

True

(ii) $45\,km : 60\,km = 12\ hours : 15\ hours$.

$$45\,km : 60\,km = \frac{45\,km}{60\,km} = \frac{3}{4}.$$

$$12\ hours : 15\ hours = \frac{12}{15} = \frac{4}{5}.$$

$\therefore$ As, $\frac{3}{4} \neq \frac{4}{5}$, the given ratios are not in proportion

False

(iii) $40\ people : 200\ people = ₹\ 1000 : ₹\ 5,000$.

$$40\ People : 200\ people = \frac{40}{200}\ \frac{people}{people}$$

$$= \frac{1}{5}.$$

$$₹\ 1000 : ₹\ 5000 = \frac{₹\ 1,000}{₹\ 5,000}$$

$$= \frac{1}{5}.$$

$\therefore$ As $\frac{1}{5} = \frac{1}{5}$, the given ratios are in proportion

Solution 4 (iv):

$$7.5 \text{ litres} : 15 \text{ litres} = \frac{7.5 \text{ litres}}{15 \text{ litres}}$$

$$= 1:2.$$

$$15 \text{ children} : 30 \text{ children} = \frac{15 \text{ children}}{30 \text{ children}}$$

$$= \frac{1}{2}.$$

Solution-05:-

(i) 25 cm : 1 m and 40 : 160

$$25 \text{ cm} : 1 \text{ m} = \frac{25 \text{ cm}}{1 \text{ m}}$$

$$1 \text{ mtr} = 100 \text{ cm}$$

$$= \frac{25 \text{ cm}}{100 \text{ cm}}$$

$$= \frac{1}{4}.$$

$$₹40 : ₹160 = \frac{₹ 40}{₹ 160}$$

$$= 1:4.$$

∴ Yes; middle terms: 1 m, ₹ 40 and extreme terms 25 cm, ₹ 160.

(ii) 39 Litre : 65 Litre and 6 bottle : 10 bottle

$$39 \text{ litre} : 65 \text{ litre} = \frac{39 \text{ litre}}{65 \text{ litre}}$$

$$= \frac{3}{5}.$$

6 bottle : 10 bottle $= \frac{6 \text{ bottle}}{10 \text{ bottle}}$

$= \frac{3}{5}$.

As Yes; middle terms 65 litre, 6 bottle;

extreme terms 65 Lire, 10 bottles.

(iii) 2kg : 80kg and 30sec : 5 minutes

$2kg : 80kg = \frac{2 \text{ kg}}{80 \text{ kg}}$

$= \frac{1}{40}$.

30 sec : 5 minutes $\Rightarrow$ 5 minutes $= 5 \times 60$ seconds

$= 300$ seconds

$30 \text{ sec} : 5 \text{ mins} = \frac{30}{300}$

$= \frac{1}{10}$.

No

(iv) 200 gm : 2.5 kg and ₹4, ₹50.

2.5 kg = 2500 gm

$200 \text{gm} : 2500 \text{gm} = \frac{200 \text{ gm}}{2500 \text{ gm}}$

$= \frac{1}{12.5}$

$₹4 : ₹50 = \frac{₹4}{₹50} = \frac{1}{12.5}$

∴ Yes; middle terms 2.5kg, ₹40; and extreme terms 200g ₹50

Exercise - 8.3

Solution-01:-

Given, Cost of 9m = ₹ 378.

$\therefore$ Cost of 1m = $\frac{378}{9}$

= 42.

$\therefore$ cost of 4m cloth = ₹ 42 × 4

= ₹ 188.

Solution-02:-

weigh tof 36 books = 12kg.

$\therefore$ weight ~~cost~~ of one book = $\frac{12kg}{36}$

= $\frac{1}{3}$ kg.

weight of 75 books = $\frac{1}{3} \times 75$ kg.

= 25 kg

Solution-03:-

Given, cost of 5 pens = ₹ 115

cost of 1 Pen = $\frac{₹115}{5}$

= ₹ 23.

How many pens can I buy = $\frac{207}{23}$.

= 9.

Solution-04:-

Petrol consumption for 100km. i.e 8 litres Petrol covers 100 km.

petrol covers 1 ltr = $\frac{100}{8}$

= 12.5 km.

one Lire petrol covers 12.5km then by 26 Litres of petrol covers = 26 × 12.5

= 325 km

Solution-05:-

6/T Truck requires 108 Litres of diesel required for covering 594 km, then.

diesd required to cover 1 km = $\frac{108}{594}$

= 0.1818

∴ Diesel Required to covey 1650 km = 0.1818 × 1650 km

= 300 ltr/km × km

= 300 Ltr

∴ 300 Ltr diesel required to travel 1650 km distance.

Solution-06:-

Transport company chaages ₹5400 for 80 quintals weight

Transport charge for 1 quintal = $\frac{₹5400}{80}$ (67.5)

= ₹67.5.

Transport charge for 126 quintals = 126 × 67.5

= ₹8,505.

Solution - 07:-

42 mtrs cloth required to make 20 shirts.

Cloth Required for 1 Shirt = $\frac{42}{20}$

= 2.1 Mtr

∴ cloth Required to make 36 shirts of that

size = 36 × 2.1

= 75.6 mtr.

Solution-08 :-

G|T cost of 5kg of rice = ₹107.50.

Cost of 1kg of Rice = $\frac{₹107.50}{5}$

= ₹21.5.

(i) cost of 8 kg of Rice = ₹21.5 × 8

= ₹172

(ii) quantity of rice can be purchased = $\frac{\text{Total cost}}{\text{Unit cost}}$

= $\frac{₹64.5}{21.5}$

= 3.

∴ 3kg's of Rice can be purchased:

Solution-09:-

Cost of 4 dozen bananas = ₹180.

$$\text{Cost of one dozen bananas} = \frac{₹\,180}{4}$$

$$= ₹\,45.$$

One banana cost = ₹45 / 12 = ₹3.75.

[∵ one dozen = 12 bananas]

$$\text{Bananas can be purchased} = \frac{\text{Total cost}}{\text{unit cost}}$$

$$= \frac{₹\,37.5}{₹\,3.75}$$

$$= 10.$$

Solution-10:-

Aman purchases. 12 pens for ₹156.

$$\text{Aman unit pen cost} = \frac{₹\,156.}{12}$$

$$= ₹\,13.$$

Payush buy 9 pens for ₹108.

$$\text{Payush unit pen cost} = \frac{₹\,108}{9}$$

$$= ₹\,12.$$

Payush bought 1Rs cheaper than Aman for one (unit) pen.

Solution - 11:-

Rohit made 42 Runs in 6 overs.

Runs per over by Rohite $= \frac{42}{6}$

$= 7$ Runs

Virata made 63 Runs in 7 Overs

Runs per over by Virat $= \frac{63}{7}$

$= 9$ Runs.

Virat made 2 Runs more per over.

Solution-12:-

Bus travels 160 km in 4 hours.

Bus Traveling in hour $= \frac{160\ km}{4\ hr}$

$= 40$ km/hr.

train travels 320 km in 5 hours

train travels in hour $= \frac{320}{5}$

$= 64.$

Ratio of distances travelled by them in one hour $= \frac{40}{64}$

$= \frac{40 \div 8}{64 \div 8}$

$= 5 : 8$

Exercise - 8.4.

Solution 01:-

(i) 18% of $450 = \frac{\cancel{18}^{9}}{\cancel{100}_{2}} \times \overset{9}{\cancel{450}}$

$= 81$

(ii) 14% of $16\frac{2}{3}$ kg $= \frac{\cancel{14}^{7}}{\cancel{100}_{2}} \times \frac{\cancel{50}}{3}$

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

(iii) $27\frac{3}{4}\%$ of $1200 = \frac{111}{\cancel{400}} \times \overset{3}{\cancel{1200}}$

$= 333.$

(iv) $\frac{5}{8}\%$ of $600m = \frac{\cancel{5}}{\cancel{8}_{4}} \times \frac{1}{\cancel{100}} \times \overset{3}{\cancel{600}}$

$= \frac{15}{4}$

$= 3.75$ km.

(v) $6\frac{1}{4}\%$ of 1 hour 20mins

1 hour = 60mins

$\frac{\cancel{25}^{5}}{\cancel{4}} \times \frac{1}{\cancel{100}_{\cancel{4}}} \times \cancel{80}^{\cancel{4}} = 5$ minutes

$6\frac{1}{4}\%$ of 1 hour 20mins = 5 minutes.

(vi) 0.6% of 5km

$$\frac{6}{10} \times \frac{1}{100} \times 5\,km = \frac{6}{1000} \times 5 \times 1000m$$

$$= 30m.$$

Solution-02.

Q|T

Given number of students = 60.

Number of students Girls = 45% of 60

$$= \frac{45}{100} \times 60$$

$$= 27 \text{ Girls.}$$

Number of boys = Total - Girls

$$= 60 - 27$$

$$= 33 \text{ boys.}$$

Solution-03:

Mr. Malkani salary = ₹ 12,750.

Savings = 22% of ₹12,750

$$= \frac{22}{100} \times 12,750$$

$$= 2805$$

Expenditure = total income - savings

$$= 12750 - 2805$$

$$= ₹ 9,945.$$

Solution-04:-

Total students = 100%.

Present + Absent = 100%.

Absent % = ?.

Absent % = 100% − present %.

G/T ⇒ Present = 94%.

Absent % = 100% − 94%.

= 6%.

G/T Absent students = 174

6% of Total = 174

$$\text{Total} \times \frac{6}{100} = 174$$

$$\Rightarrow \text{Total} = \frac{174 \times 100}{6}$$

$$\Rightarrow \text{Total} = 2900.$$

Total strength of the school = 2900.

Exercise - 8.5 :-

Solution 1 :-

The speed of the car $= 105\frac{1}{5}$ km/h.

distance covered in $3\frac{3}{5}$ hour $= 3\frac{3}{5} \times 105\frac{1}{5}$

$= \frac{18}{5} \times \frac{526}{5}$

$= \frac{9468}{25}$

$= 378.\frac{18}{25}$ km

Solution - 02 :-

Speed of a car = 50.4 km/h.

distance covered in 3.6 hours = 50.4×3.6

$= 181.44$ km

∴ 181.44 km distance can be covered in 3.6 hours.

Solution - 03.

Total distance = 201.25 km.

Total time = 3.5 Hour

speed of the car = $\frac{201.25}{3.5}$

= 57.5 km.