



Exercise 10A

Q1

Answer :

$$(i) 24:56 = \frac{24}{56} = \frac{24 \div 8}{56 \div 8} = \frac{3}{7}$$

As the H.C.F. of 3 and 7 is 1, the simplest form of 24:56 is 3:7.

$$(ii) 84 \text{ paise to Rs } 3 = \text{Rs } 0.84 \text{ to R. } 3 = \frac{0.84}{3} = \frac{0.84 \div 3}{3 \div 3} = \frac{0.28}{1} = \frac{28}{100} = \frac{28 \div 4}{100 \div 4} = \frac{7}{25}$$

As the H.C.F. of 7 and 25 is 1, the simplest form of 0.84:3 is 7:25.

$$(iii) 4 \text{ kg:}750 \text{ g} = 4000 \text{ g:}750 \text{ g} = \frac{4000}{750} = \frac{4000 \div 250}{750 \div 250} = \frac{16}{3}$$

As the H.C.F. of 16 and 3 is 1, the simplest form of 4000:750 is 16:3.

$$(iv) 1.8 \text{ kg:}6 \text{ kg} = \frac{1.8}{6} = \frac{18}{60} = \frac{18 \div 6}{60 \div 6} = \frac{3}{10}$$

As the H.C.F. of 3 and 10 is 1, the simplest form of 1.8:6 is 3:10.

$$(v) 48 \text{ minutes to } 1 \text{ hour} = 48 \text{ minutes to } 60 \text{ minutes} = 48:60 = \frac{48}{60} = \frac{48 \div 12}{60 \div 12} = \frac{4}{5}$$

As the H.C.F. of 4 and 5 is 1, the simplest form of 48:60 is 4:5.

$$(vi) 2.4 \text{ km to } 900 \text{ m} = 2400 \text{ m:}900 \text{ m} = \frac{2400}{900} = \frac{24}{9} = \frac{24 \div 3}{9 \div 3} = \frac{8}{3}$$

As the H.C.F. of 8 and 3 is 1, the simplest form of 2400:900 is 8:3.

Q2

Answer :

$$(i) 36:90 = \frac{36}{90} = \frac{36 \div 18}{90 \div 18} = \frac{2}{5} \quad (\text{As the H.C.F. of } 36 \text{ and } 90 \text{ is } 18.)$$

Since the H.C.F. of 2 and 5 is 1, the simplest form of 36:90 is 2:5.

$$(ii) 324:144 = \frac{324}{144} = \frac{324 \div 36}{144 \div 36} = \frac{9}{4} \quad (\text{As the H.C.F. of } 324 \text{ and } 144 \text{ is } 36.)$$

Since the H.C.F. of 9 and 4 is 1, the simplest form of 324:144 is 9:4.

$$(iii) 85:561 = \frac{85}{561} = \frac{85 \div 17}{561 \div 17} = \frac{5}{33} \quad (\text{As the H.C.F. of } 85 \text{ and } 561 \text{ is } 17.)$$

Since the H.C.F. of 5 and 33 is 1, the simplest form of 85:561 is 5:33.

$$(iv) 480:384 = \frac{480}{384} = \frac{480 \div 96}{384 \div 96} = \frac{5}{4} \quad (\text{As the H.C.F. of } 480 \text{ and } 384 \text{ is } 96.)$$

Since the H.C.F. of 5 and 4 is 1, the simplest form of 480:384 is 5:4.

$$(v) 186:403 = \frac{186}{403} = \frac{186 \div 31}{403 \div 31} = \frac{6}{13} \quad (\text{As the H.C.F. of 186 and 403 is 31.})$$

Since the H.C.F. of 6 and 13 is 1, the simplest form of 186:403 is 6:13.

$$(vi) 777:1147 = \frac{777}{1147} = \frac{777 \div 37}{1147 \div 37} = \frac{21}{31} \quad (\text{As the H.C.F. of 777 and 1147 is 37.})$$

Since the H.C.F. of 21 and 31 is 1, the simplest form of 777:1147 is 21:31.

Q3

Answer :

(i) Rs 6.30:Rs 16.80

$$\frac{6.30}{16.80} = \frac{63}{168} = \frac{63 \div 21}{168 \div 21} = \frac{3}{8} \quad (\text{H.C.F. of 63 and 168 is 21.})$$

Ratio = 3 : 8

(ii) 3 weeks:30 days = 21days:30 days (1 week = 7 days)

$$\frac{21}{30} = \frac{21 \div 3}{30 \div 3} = \frac{7}{10} \quad (\text{H.C.F. of 21 and 30 is 3.})$$

Ratio = 7 : 10

(iii) 3 m 5 cm:35 cm = 305 cm:35 cm (1 m = 100 cm)

$$\frac{305}{35} = \frac{305 \div 5}{35 \div 5} = \frac{61}{7} \quad (\text{H.C.F. of 305 and 35 is 5.})$$

Ratio = 61:7

(iv) 48 min:2 hours 40 min = 48 min:160 min (1 hour = 60 mins)

$$\frac{48}{160} = \frac{48 \div 16}{160 \div 16} = \frac{3}{10} \quad (\text{H.C.F. of 48 and 160 is 16.})$$

Ratio = 3:10

(v) 1 L 35 mL:270 mL = 1035 mL:270 mL (1 L = 1000 mL)

$$\frac{1035}{270} = \frac{1035 \div 45}{270 \div 45} = \frac{23}{6} \quad (\text{H.C.F. of 1035 and 270 is 45.})$$

Ratio = 23:6

(vi) 4 kg:2 kg 500 g = 4000 g:2500 g (1 kg= 1000 g)

$$\frac{4000}{2500} = \frac{40}{25} = \frac{40 \div 5}{25 \div 5} = \frac{8}{5} \quad (\text{H.C.F. of 40 and 25 is 5.})$$

Ratio = 8:5

Q4

Answer :

Mr Sahai's earning = Rs 16800

Mrs Sahai's earning = Rs 10500

$$(i) \text{Ratio} = 16800:10500 = 168:105 = \frac{168 \div 21}{105 \div 21} = \frac{8}{5} \quad (\text{H.C.F. of 168 and 105 is 21.})$$

Mr Sahai's income:Mrs Sahai's income = 8:5

$$(ii) \text{Ratio} = 10500:16800 = 105:168 = \frac{105 \div 21}{168 \div 21} = \frac{5}{8} \quad (\text{H.C.F. of 168 and 105 is 21.})$$

Mrs Sahai's income:Mr Sahai's income = 5:8

(iii) Total income = 16800 + 10500 = Rs 27300

$$\text{Ratio} = 16800:27300 = 168:273 = \frac{168 \div 21}{273 \div 21} = \frac{8}{13} \quad (\text{H.C.F. of 168 and 273 is 21.})$$

Mrs Sahai's income:Total income = 8:13

Q5

Answer :

Rohit's income = Rs 15300

Rohit's savings = Rs 1224

$$(i) \text{Income:Savings} = 15300:1224 = \frac{15300 \div 612}{1224 \div 612} = \frac{25}{2} \quad (\text{H.C.F. of 15300 and 1224 is 612.})$$

Income:Savings = 25:2

(ii) Monthly expenditure = Rs (15300 - 1224) = Rs 14076

$$\text{Income:Expenditure} = 15300:14076 = \frac{15300 \div 612}{14076 \div 612} = \frac{25}{23} \quad (\text{H.C.F. of 15300 and 14076 is 612.})$$

Income:Expenditure = 25:23

$$(iii) \text{Expenditure : Savings} = 14076:1224 = \frac{14076 \div 612}{1224 \div 612} = \frac{23}{2} \quad (\text{H.C.F. of 14076 and 1224 is 612.})$$

Expenditure:Savings = 23:2

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