

Worksheet 2015-8EG-00008(4)

(1) (a) Which of the following ratios are equal to 18 litres to 24 litres:

A. 2 : 3

B. 3 : 2

C. 3 : 4

D. 4 : 3

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

$\therefore C$

(b) $\frac{2}{3}$ of 33 =

A. 11

B. 22

C. 33

D. 55

$$\frac{2}{3} \text{ of } 33 = \frac{2}{3} \times \frac{33}{1}$$

$$= 22$$

$\therefore B$

(2) Are the following statements true or false?

(a) $\frac{1}{4} : \frac{1}{3}$ is proportional to 4 : 3.

$$\rightarrow \frac{1}{4} \div \frac{1}{3} = \frac{1}{4} \times \frac{3}{1} = \frac{3}{4} = 3:4$$

$$\text{but } \frac{3}{4} = 3:4 \neq 4:3$$

$\therefore \text{False}$

(b) If Amos and Jay divide R66 in the ratio 5 : 6 between them, Amos will receive R30 and Jay R36.

$$\text{Amos : } \frac{5}{11} \text{ of } R66 = \frac{5}{11} \times \frac{66}{1} = R30$$

$\therefore \text{True}$

(c) 125% of 20 minutes is 5 minutes.

$$125\% \text{ of } 20 \text{ min.} = \frac{125}{100} \times \frac{20}{1} = \frac{250}{10} = 25 \text{ min.}$$

$\therefore$ False

(3) A certain number of tons of fodder should be divided between three farms X, Y and Z, in the ratio 2 : 3 : 1. Farm X should receive 120 tons of the fodder.

(a) How many tons of fodder will farm Y receive?

(b) What is the total number of tons of fodder that will be divided between the three farms?

$$(a) X : Y : Z = 2 : 3 : 1$$

$$\therefore X : Y = 2 : 3 \rightarrow \frac{X}{Y} = \frac{2}{3} \rightarrow \frac{120}{Y} = \frac{2}{3} \times \frac{60}{60}$$

$$\therefore \frac{120}{Y} = \frac{120}{180}$$

$\therefore$ Farm Y receives 180 tons

$$(b) X : W = 2 : 1 \rightarrow \frac{120}{W} = \frac{2}{1} \rightarrow \frac{120}{W} = \frac{2 \times 60}{1 \times 60}$$

$$\therefore W = 60 \text{ tons}$$

$$\therefore \text{Total} = 120 + 180 + 60 = 360 \text{ tons}$$

(4) Are the following ratios proportional?

$$\left(\frac{1}{3} : \frac{1}{6} \text{ and } 6 : 3 \right.$$

$$\frac{1}{3} \div \frac{1}{6} = \frac{1}{3} \times \frac{6}{1}$$

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

$$= 2 : 1$$

$$6 : 3 = \frac{6}{3} = \frac{2}{1}$$

$$= 2 : 1$$

$$\therefore \frac{1}{3} : \frac{1}{6} = 6 : 3$$