

Soln:- Let the total distance be  $x$  km then

$$\frac{\frac{2}{3}x}{4} + \frac{\frac{1}{3}x}{5} = \frac{7}{5} \Leftrightarrow \frac{x}{6} + \frac{x}{15} = \frac{7}{5} \Leftrightarrow 7x = 42$$

$$x = 6 \quad \text{total distance} = 6 \text{ km.}$$

⑥ A man travelled from the village to the post-office at the rate of 25 kmph and walked back at the rate of 4 kmph. If the whole journey took 5 hours 48 min find the distance of the post-office from the village.

Soln:- Average speed =  $\left(\frac{2xy}{x+y}\right)$  km/hr =  $\left(\frac{2 \times 25 \times 4}{25+4}\right)$  km/hr.

$$= \frac{200}{29} \text{ km/hr}$$

Distance travelled in 5 hours 48 minutes i.e.  $5 \frac{4}{5}$  hrs

$$= \left(\frac{200}{29} \times \frac{29}{5}\right) \text{ km} = 40 \text{ km}$$

Distance of the post-office from the village =  $\left(\frac{40}{2}\right)$   
= 20 km.

⑦ An aeroplane flies along the four sides of a square at the speeds of 200, 400, 600 and 800 km/hr. find the average speed of the plane around the field.

Soln:- Let each side of the square be  $x$  km and let the average speed of the plane around the field be  $y$  km/hr then,