

$$\textcircled{i} \text{ (a) (i) } 20 \times \$12.50 \\ = \$250$$

$$\begin{aligned} \text{(ii) } 5 &= \$250 & x &= \frac{52}{5} \times \$250 \\ 52 &= x & &= \$2600 \end{aligned}$$

$$\begin{aligned} \text{(iii) } \$2600 - \$2450 &= \$150 & \% \text{ increase} &= \frac{\$150}{\$2450} \times 100\% \\ & & &= 6.122448979\ldots\% \\ & & &\approx 6.12\% \end{aligned}$$

$$\begin{aligned} \text{(b) (i) } \frac{3}{3+2} \times 20 \text{ km} \\ = \frac{3}{5} \times 20 \text{ km} \\ = 12 \text{ km} \end{aligned}$$

$$\begin{aligned} \text{(ii) Total time} &= \frac{12 \text{ km}}{3 \text{ km/h}} + \frac{8 \text{ km}}{2.5 \text{ km/h}} \\ &= 4 \text{ h} + 3.2 \text{ h} \\ &= 7.2 \text{ h} \\ &= 7 \text{ h} + 0.2 \times 60 \text{ min} \\ &= 7 \text{ h } 12 \text{ min} \end{aligned}$$

$$\begin{aligned} \text{(iii) average speed} &= \frac{\text{Total Distance}}{\text{Total Time}} \\ &= \frac{20 \text{ km}}{7.2 \text{ h}} \\ &= 2.777777\ldots \text{ km/h} \\ &\approx 2.78 \text{ km/h} \end{aligned}$$

$$\begin{aligned} \text{(iv) } 08.55 \\ 07.12 + \\ \hline 15.67 \\ = 16.07 \end{aligned}$$

$$\begin{aligned} \text{(c) Scale} &= 80 \text{ cm} : 20 \text{ km} \\ &= \frac{80 \text{ cm} : 2000000 \text{ cm}}{\div 80 \text{ cm}} \\ &= 1 : 25000 \end{aligned}$$

$$n = 25000$$