

$$\text{iii) } \frac{(4x-1)}{3} = \frac{(5x+2)}{2}$$

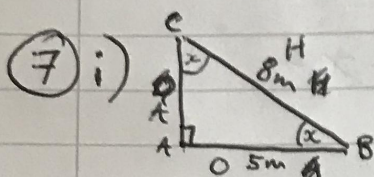
$$\Rightarrow \text{cross multiply} \Rightarrow (4x-1) \times 2 = (5x+2) \times 3$$

$$\Rightarrow 8x - 2 = 15x + 6$$

$$\Rightarrow 8x = 15x + 8$$

$$\Rightarrow 0 = 7x + 8$$

$$\Rightarrow 7x = -8 \therefore x = -\frac{8}{7} \text{ or } \boxed{-1\frac{1}{7}}$$



$$\text{Angle B} \Rightarrow \cos(x) = \frac{5}{8}$$

$$5 \div 8 = 0.625 \Rightarrow \cos^{-1}(0.625) = \boxed{51.32^\circ}$$

$$\text{ii) Angle C} \Rightarrow \sin(x) = \frac{5}{8}$$

$$5 \div 8 = 0.625 \Rightarrow \sin^{-1}(0.625) = \boxed{38.68^\circ}$$

$$\text{iii) Length AC} \Rightarrow \cos(38.68) = \frac{AC}{8}$$

$$\Rightarrow 8 \times \cos(38.68) = 6.25\text{m}$$

$$\vec{AC} = \boxed{6.25\text{m}}$$