

$$\textcircled{5} \begin{aligned} 5x + 3y &= 39 \quad (\times 2) \quad \textcircled{1} \\ 8x - 2y &= 42 \quad (\times 3) \quad \textcircled{2} \end{aligned}$$

Sub into $\textcircled{1}$

$$\begin{aligned} 10x + 6y &= 78 \quad \textcircled{3} \\ 24x - 6y &= 126 \quad \textcircled{4} \end{aligned}$$

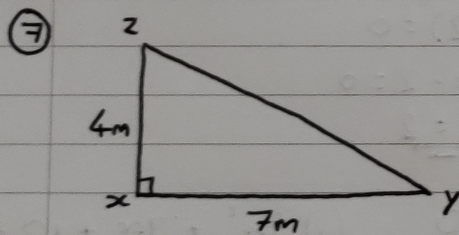
$$\begin{aligned} 5(6) + 3y &= 39 \\ 30 + 3y &= 39 \\ 3y &= 39 - 30 \\ y &= \frac{9}{3} \\ y &= \underline{\underline{3}} \end{aligned}$$

$$34x = 204$$

$$x = \frac{204}{34}$$

$$\underline{\underline{x = 6}}$$

$$\begin{aligned} \textcircled{6} \quad & 5(2x^2 - y^2) - x^2(x^2 - y) - x^2y - x^4 \\ & 10x^2 - 5y^2 - x^4 + x^3y - x^2y - x^4 \\ & 10x^2 - 5y^2 - 2x^4 \end{aligned}$$



$$\begin{aligned} \text{(i) } \hat{y}: \quad \tan y &= \frac{4}{7} \\ \tan y &= \frac{4}{7} \\ y &= \tan^{-1}\left(\frac{4}{7}\right) \\ \hat{y} &= \underline{\underline{29.74^\circ}} \end{aligned}$$

$$\begin{aligned} \text{(ii) } \hat{z}: \quad \tan z &= \frac{4}{7} \\ \tan z &= \frac{4}{7} \\ z &= \tan^{-1}\left(\frac{7}{4}\right) \\ z &= \underline{\underline{60.26^\circ}} \end{aligned}$$

$$\begin{aligned} \text{Check: } 90 + 60.26 + 29.74 \\ &= \underline{\underline{180^\circ}} \end{aligned}$$

$$\begin{aligned} \text{(iii) } yz^2 &= xz^2 + xy^2 \\ yz^2 &= 4^2 + 7^2 \\ yz^2 &= 16 + 49 \\ yz &= \sqrt{65} \\ yz &= \underline{\underline{8.06\text{ m}}} \end{aligned}$$

$$\textcircled{8} \text{(i) } \sqrt[3]{x} = \underline{\underline{x^{\frac{1}{3}}}}$$

$$\text{(ii) } 1 = \underline{\underline{x^0}}$$