

28th September



Corbettmaths

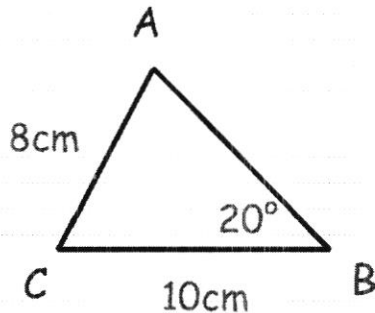
Expand and simplify fully

$$(x + 4)(x - 3)^2$$

$$= (x + 4)(x^2 - 6x + 9)$$

$$= x^3 - 6x^2 + 9x + 4x^2 - 24x + 36$$

$$= \underline{x^3 - 2x^2 - 15x + 36}$$



Work out the difference in areas between the two possible triangles ABC.

$$\frac{\sin A}{10} = \frac{\sin 20^\circ}{8}$$

$$\sin A = 0.4275$$

$$A = 25.3^\circ \Rightarrow C = 134.7^\circ$$

$$\text{or } A = 154.7^\circ \Rightarrow C = 5.3^\circ$$

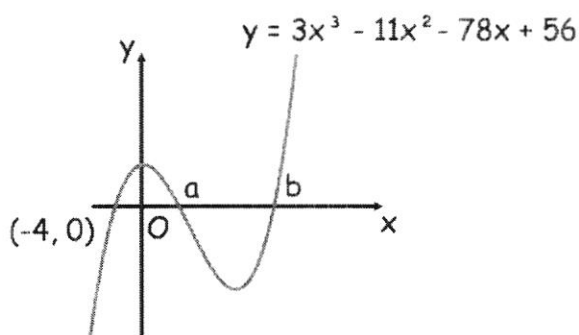
$$\text{Area} = \frac{1}{2} \times 8 \times 10 \times \sin C = 40 \sin C$$

$$C = 134.7^\circ \Rightarrow \text{Area} = 28.43$$

$$C = 5.3^\circ \Rightarrow \text{Area} = 3.69$$

$$\underline{\text{Diff} = 24.7 \text{ cm}^2}$$

Below is the graph of  
 $y = 3x^3 - 11x^2 - 78x + 56$



Find the coordinates of the points  $a$  and  $b$ , where the graph of  
 $y = 3x^3 - 11x^2 - 78x + 56$   
 crosses the x-axis.

$$= (x + 4)(3x^2 - 23x + 14)$$

$$= (x + 4)(x - 7)(3x - 2)$$

$$\underline{a \left(\frac{2}{3}, 0\right)}, \underline{b(7, 0)}$$