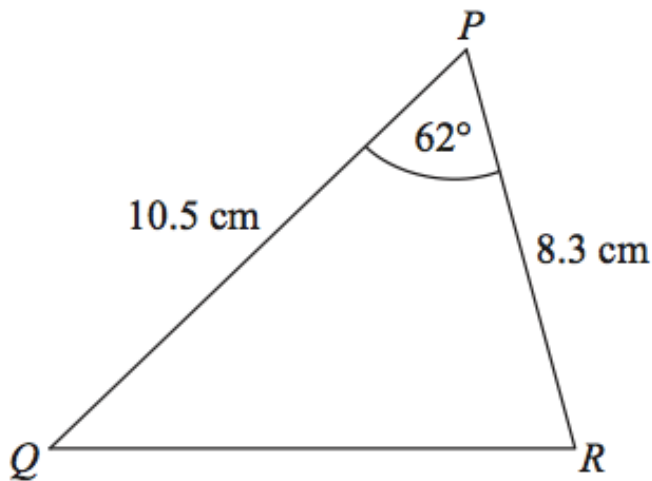


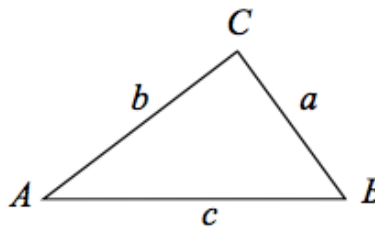
## Geometry - Trigonometry Cosine Rule



Calculate the length of  $QR$ .

Give your answer correct to 3 significant figures.

In any triangle  $ABC$

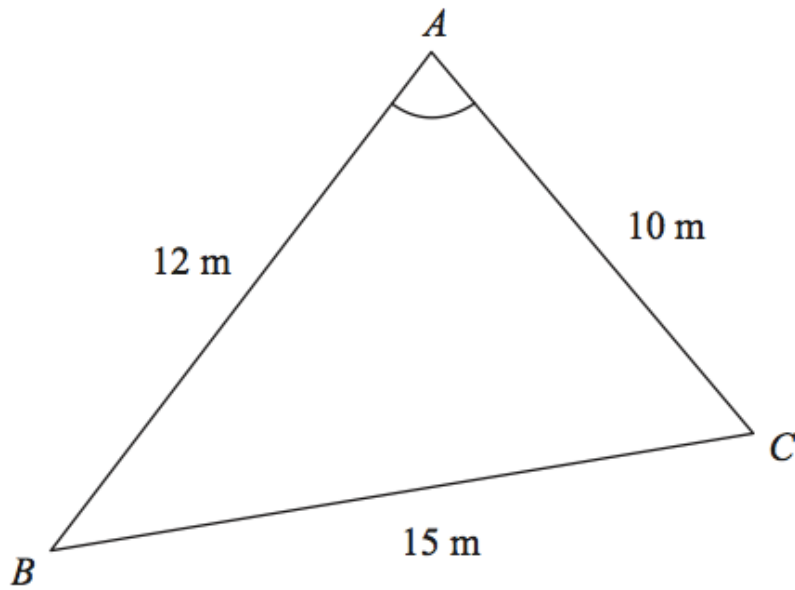


**Cosine Rule**  $a^2 = b^2 + c^2 - 2bc \cos A$

.....cm

**(3)**

## Geometry - Trigonometry Cosine Rule

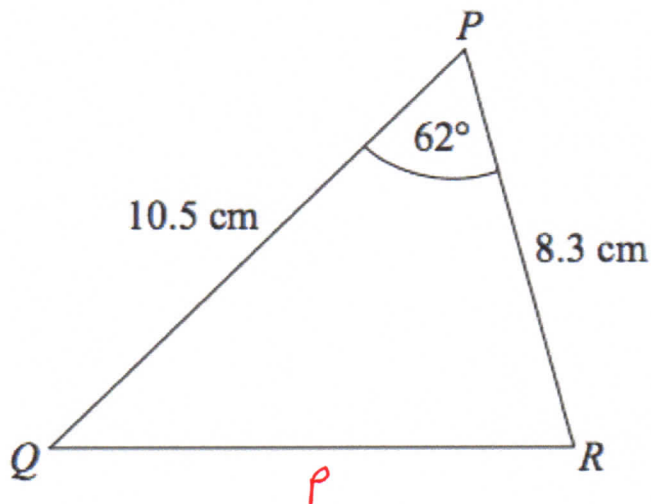


Calculate the size of angle  $BAC$ .

Give your answer correct to one decimal place.

*(3 marks)*

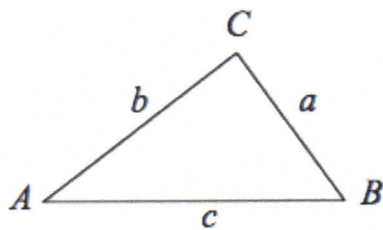
## Geometry - Trigonometry Cosine Rule



Calculate the length of  $QR$ .

Give your answer correct to 3 significant figures.

In any triangle ABC



**Cosine Rule**  $a^2 = b^2 + c^2 - 2bc \cos A$

$$p^2 = 10.5^2 + 8.3^2 - 2 \times 10.5 \times 8.3 \cos 62^\circ$$

$$p^2 = 97.31$$

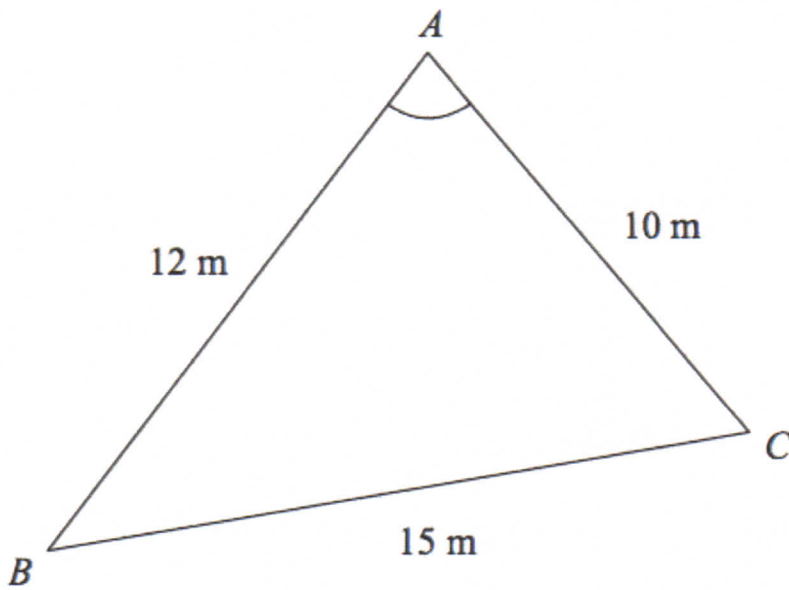
$$p = \sqrt{97.31}$$

$$p = 9.86 \text{ cm}$$

$$QR = 9.86 \dots \text{cm}$$

(3)

## Geometry - Trigonometry Cosine Rule



Calculate the size of angle  $BAC$ .

Give your answer correct to one decimal place.

Cosine rule  $a^2 = b^2 + c^2 - 2bc \cos A$

$$2bc \cos A = b^2 + c^2 - a^2$$

$$\cos A = \frac{b^2 + c^2 - a^2}{2bc}$$

$$\cos A = \frac{10^2 + 12^2 - 15^2}{(2 \times 10 \times 12)}$$

$$\cos A = 0.079166$$

$$A = \cos^{-1}(0.079166)$$

$$A = 85.5^\circ$$

$$\underline{\angle BAC = 85.5^\circ}$$

(3 marks)