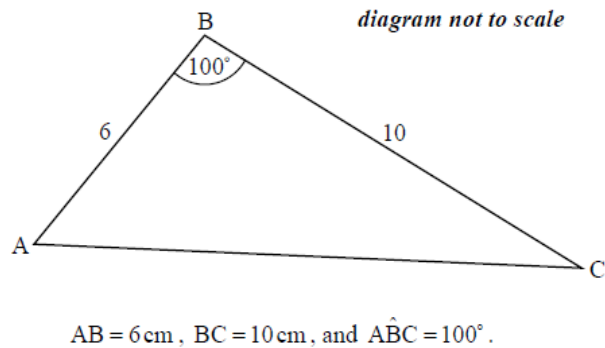


19 September 2019

Do Now: Laws of sines and cosines practice

1a. The following diagram shows triangle ABC.



Find AC.

[3 marks]

1b. Find $\angle C$.

[3 marks]

2a. In triangle ABC, $AB = 6 \text{ cm}$ and $AC = 8 \text{ cm}$. The area of the triangle is 16 cm^2 .

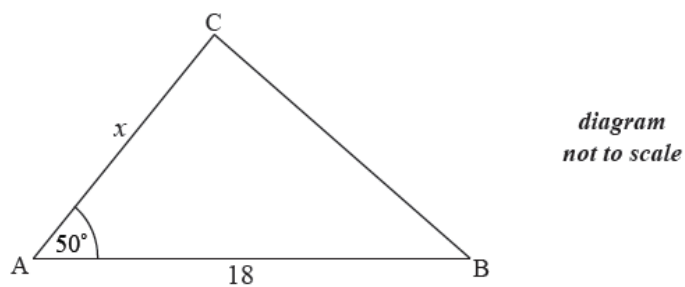
Find the two possible values for $\angle A$.

[4 marks]

2b. Given that $\angle A$ is obtuse, find BC.

[3 marks]

3a. The following diagram shows a triangle ABC.



The area of triangle ABC is 80 cm^2 , $AB = 18 \text{ cm}$, $AC = x \text{ cm}$ and $\angle A = 50^\circ$.

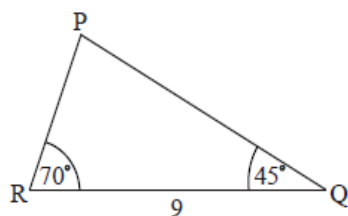
Find x .

[3 marks]

3b. Find BC.

[3 marks]

4a. The following diagram shows $\triangle PQR$, where $RQ = 9$ cm, $\hat{P}RQ = 70^\circ$ and $\hat{P}QR = 45^\circ$.



*diagram
not to scale*

Find $\hat{R}PQ$.

[1 mark]

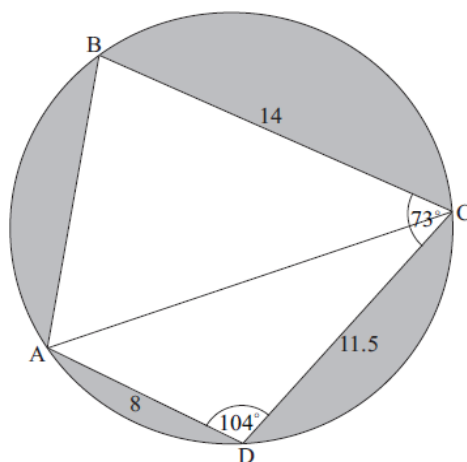
4b. Find PR .

[3 marks]

4c. Find the area of $\triangle PQR$.

[2 marks]

5a. The diagram shows a circle of radius 8 metres. The points $ABCD$ lie on the circumference of the circle.



$BC = 14$ m, $CD = 11.5$ m, $AD = 8$ m, $\hat{A}DC = 104^\circ$, and $\hat{B}CD = 73^\circ$.

Find AC .

[3 marks]

5b. (i) Find $\hat{A}CD$.

[5 marks]

(ii) Hence, find $\hat{A}CB$.

5c. Find the area of triangle ADC .

[2 marks]

5d. Hence or otherwise, find the total area of the shaded regions.

[6 marks]