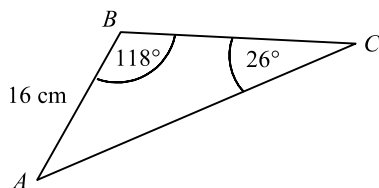


C2 TRIGONOMETRY

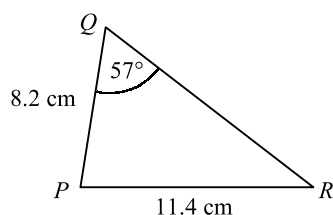
Worksheet A

1



The diagram shows triangle ABC in which $AB = 16$ cm, $\angle ABC = 118^\circ$ and $\angle ACB = 26^\circ$.
Use the sine rule to find the length AC to 3 significant figures.

2

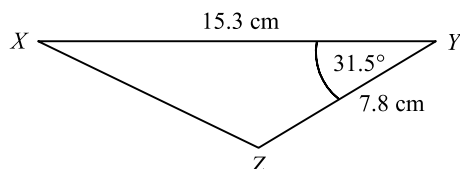


The diagram shows triangle PQR in which $PQ = 8.2$ cm, $PR = 11.4$ cm and $\angle PQR = 57^\circ$.
Use the sine rule to find the size of $\angle PRQ$ in degrees to 1 decimal place.

3

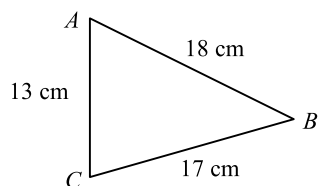
In triangle ABC , $AB = 16.2$ cm, $BC = 12.3$ cm and $\angle BAC = 37^\circ$.
Find the two possible sizes of $\angle ACB$ and the corresponding lengths of AC .

4



The diagram shows triangle XYZ in which $XY = 15.3$ cm, $YZ = 7.8$ cm and $\angle XYZ = 31.5^\circ$.
Use the cosine rule to find the length XZ .

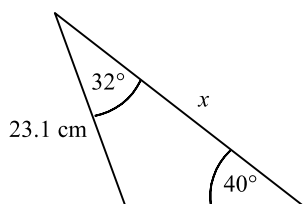
5



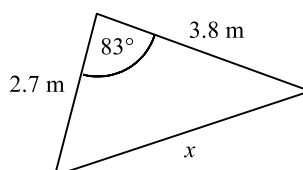
The diagram shows triangle ABC in which $AB = 18$ cm, $AC = 13$ cm and $BC = 17$ cm.
Use the cosine rule to find the size of $\angle ACB$.

6 Find the length x in each triangle.

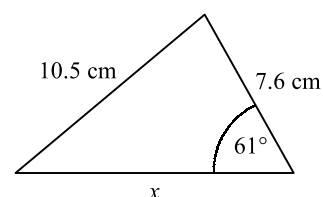
a



b



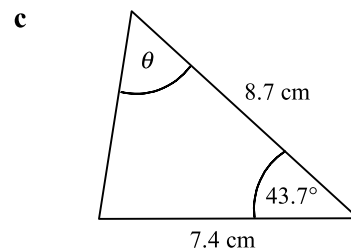
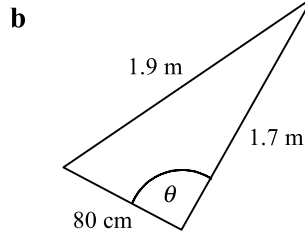
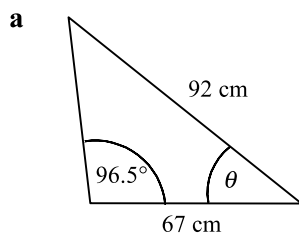
c



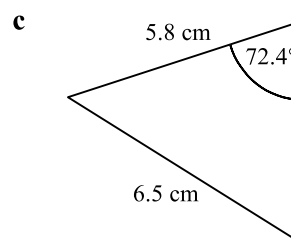
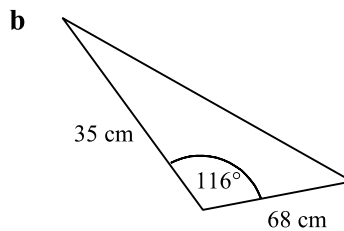
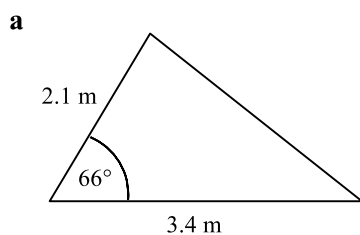
C2 TRIGONOMETRY

Worksheet A continued

7 Find the angle θ in each triangle.



8 Find the area of each of the following triangles.

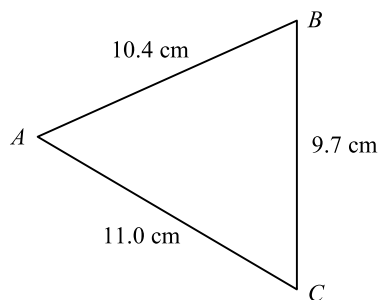


9 Joanne walks 4.2 miles on a bearing of 138° . She then walks 7.8 miles on a bearing of 251° .

- Calculate how far Joanne is from the point where she started.
- Find, as a bearing, the direction in which Joanne would have to walk in order to return to the point where she started.

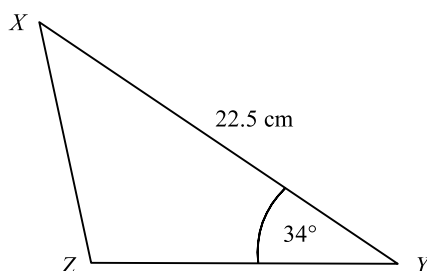
10 A ferry and a cargo ship are both approaching the same port. The ferry is 3.2 km from the port on a bearing of 076° and the cargo ship is 6.9 km from the port on a bearing of 323° . Find the distance between the two vessels and the bearing of the cargo ship from the ferry.

11



The diagram shows triangle ABC in which $AB = 10.4$ cm, $AC = 11.0$ cm and $BC = 9.7$ cm. Find the area of the triangle to 3 significant figures.

12



The diagram shows triangle XYZ in which $XY = 22.5$ cm and $\angle XYZ = 34^\circ$. Given that the area of the triangle is 100 cm², find the length XZ .