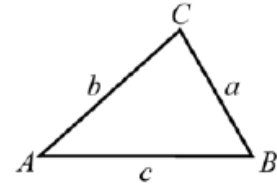


Sine and Cosine Rule Exam Questions

In any triangle ABC

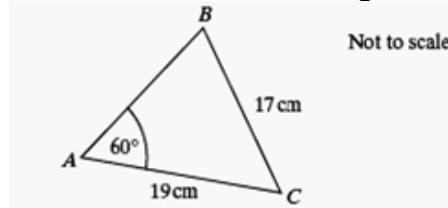
$$\text{Area of triangle} = \frac{1}{2} ab \sin C$$

$$\text{Sine rule} \quad \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$



$$\text{Cosine rule} \quad a^2 = b^2 + c^2 - 2bc \cos A$$

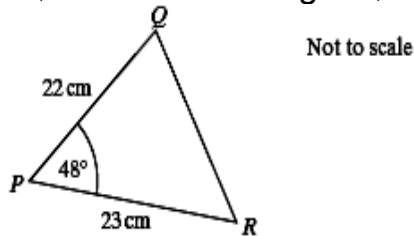
ABC is a triangle. $AC = 19$ cm, $BC = 17$ cm and angle $BAC = 60^\circ$



Calculate the size of angle ABC .

(3 marks)

PQR is a triangle. $PR = 23$ cm, $PQ = 22$ cm and angle $QPR = 48^\circ$



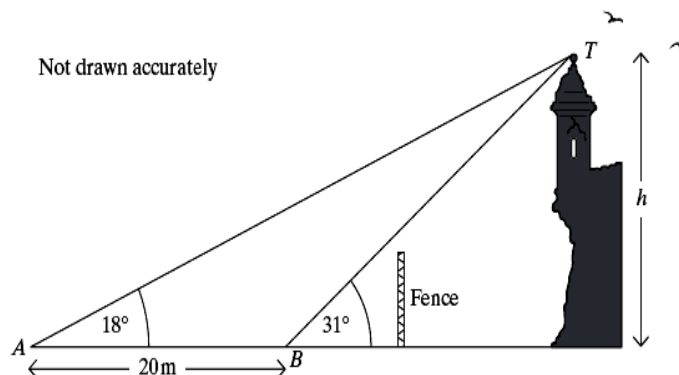
Calculate the length of QR .

Give your answer to an appropriate degree of accuracy.

(4 marks)

A ruined tower is fenced off for safety reasons.

To find the height of the tower Rashid stands at a point A and measures the angle of elevation as 18° . He then walks 20 metres directly towards the base of the tower to point B where the angle of elevation is 31° .

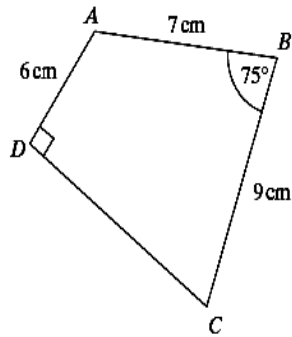


Calculate the height, h , of the tower.

(6 marks)

$ABCD$ is a quadrilateral.

$AB = 7$ cm, $AD = 6$ cm and $BC = 9$ cm. Angle $ABC = 75^\circ$ and angle $ADC = 90^\circ$

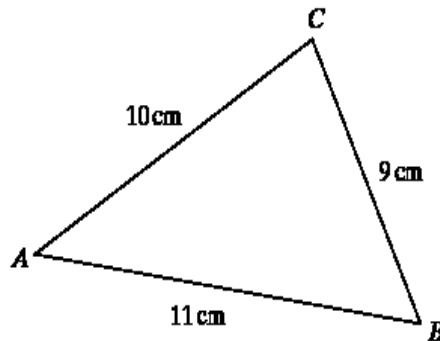


Not drawn accurately

Calculate the perimeter of $ABCD$.

(5 marks)

In triangle ABC , $AB = 11$ cm, $BC = 9$ cm and $CA = 10$ cm.



Not to scale

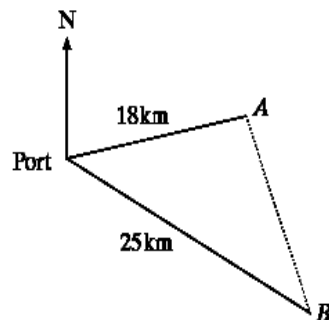
Find the area of triangle ABC .

(5 marks)

Two ships, A and B , leave port at 13 00 hours.

Ship A travels at a constant speed of 18 km per hour on a bearing of 070° .

Ship B travels at a constant speed of 25 km per hour on a bearing of 152° .



Not drawn accurately

Calculate the distance between A and B at 14 00 hours.

(4 marks)
