

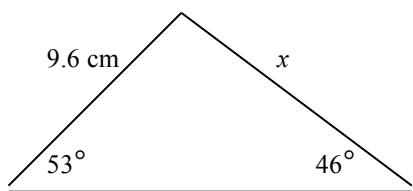
Assignment 14
Pre IB
Trigonometry

Please write your solutions on A4 squared or lined paper. You MUST show the stages of your working out and answer all questions. If you hand in work with insufficient working out, I will hand the assignment back to you to do again. **Give your answers to 3 significant figures.**

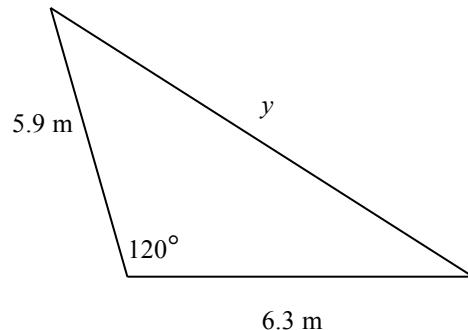
Sine and Cosine Rule- Chapter 28

1.

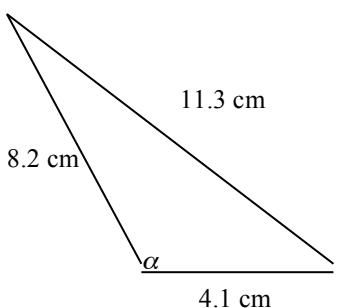
(a)



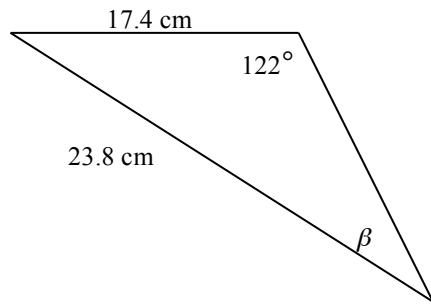
(b)



(c)



(d)

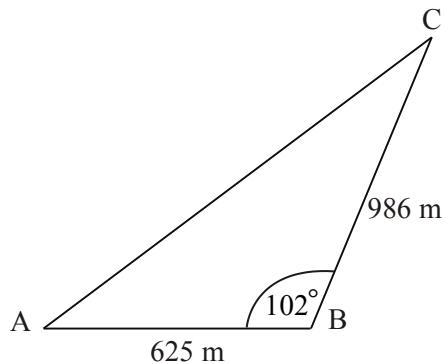


- (e) A runner runs for 700 m in a straight line and then turns through an angle of 40° and runs for another 800 m. How far is he from his starting point?
(Draw a diagram and remember he **turns through** an angle of 40°)

2. On a map three schools A, B and C are situated as shown in the diagram.

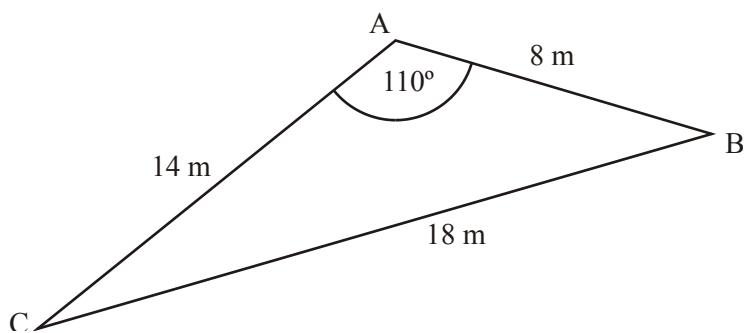
Schools A and B are 625 metres apart.

Angle $\hat{A}B\hat{C} = 102^\circ$ and $BC = 986$ metres.



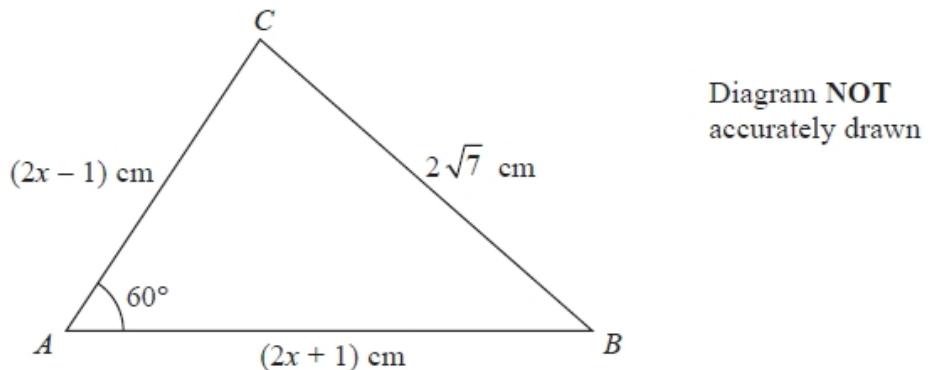
- (a) Find the distance between A and C.
- (b) Find the size of angle $\hat{B}\hat{A}\hat{C}$.
3. The following diagram shows a triangle ABC. $AB = 8$ m, $AC = 14$ m, $BC = 18$ m, and $\hat{B}\hat{A}\hat{C} = 110^\circ$.

Diagram not to scale



Calculate the size of angle $\hat{A}\hat{C}\hat{B}$.

4.



The diagram shows a triangle ABC .

$AB = (2x + 1)$ cm, $AC = (2x - 1)$ cm and $BC = 2\sqrt{7}$ cm.

Angle $BAC = 60^\circ$

Work out the value of x .

Show clear algebraic working.