

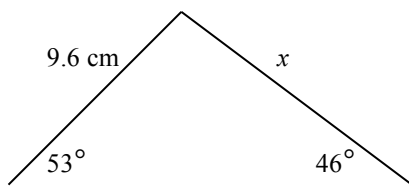
Assignment 14
Pre IB
Trigonometry

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.**

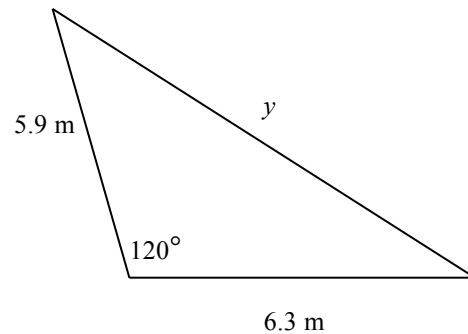
Sine and Cosine Rule- Chapter 28

1.

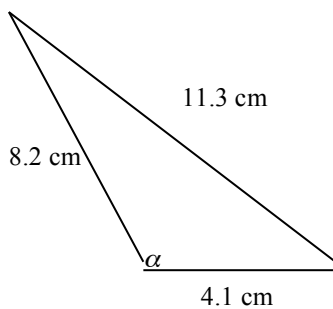
(a)



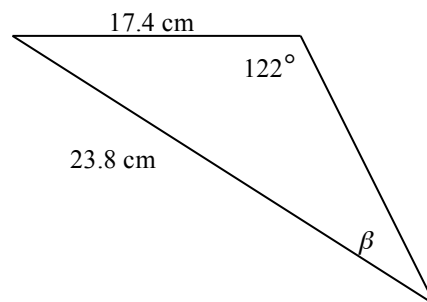
(b)



(c)



(d)

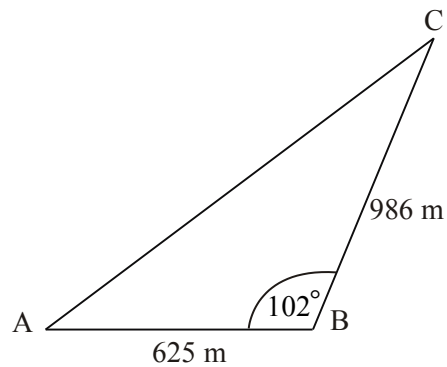


- (e) A runner runs for 700 m in a straight line and then turns through an angle of 40° and runs for another 800 m . How far is he from his starting point?
(Draw a diagram and remember he **turns through** an angle of 40°)

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

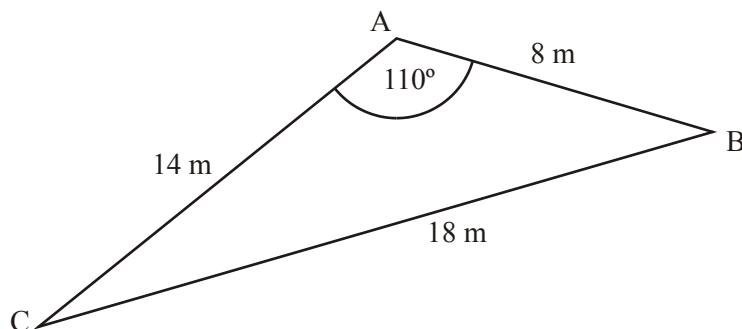
Schools A and B are 625 metres apart.

Angle $\hat{ABC} = 102^\circ$ and $BC = 986$ metres.



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

Diagram not to scale



Calculate the size of angle \hat{ACB} .

4.

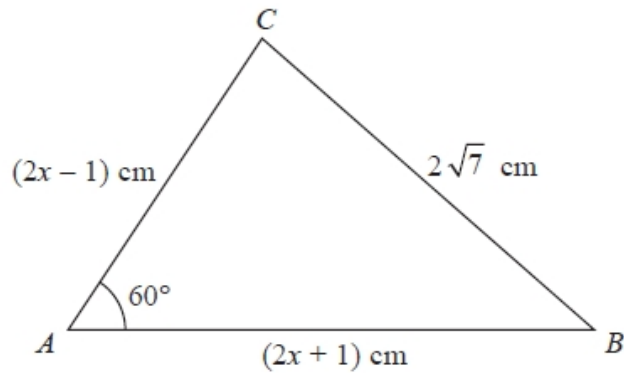


Diagram **NOT**
accurately drawn

The diagram shows a triangle ABC .

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

Angle $BAC = 60^\circ$

Work out the value of x .

Show clear algebraic working.