Trigonometry

Part 2 Advance Trigonometry

(Not Right angle Triangles)

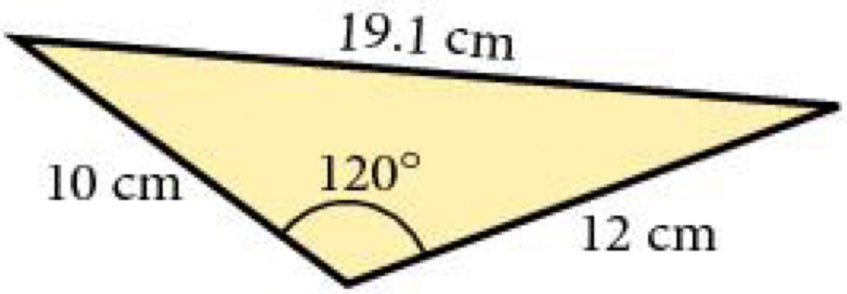
By .... Kru ชี่

How to label each sides in not right angle triangles

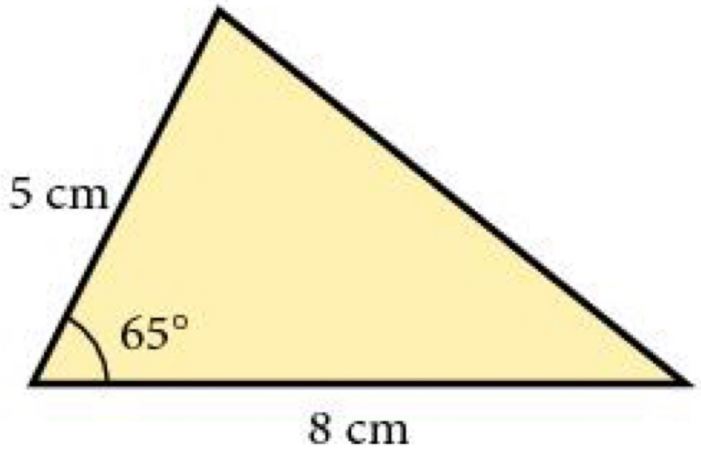
Area of triangles

Proof for formula

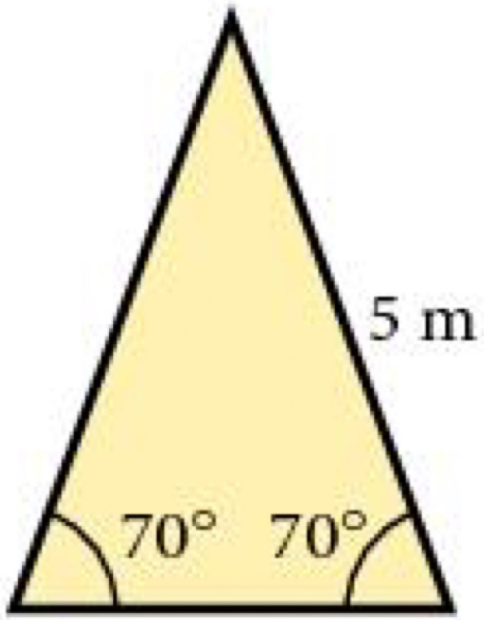
Example



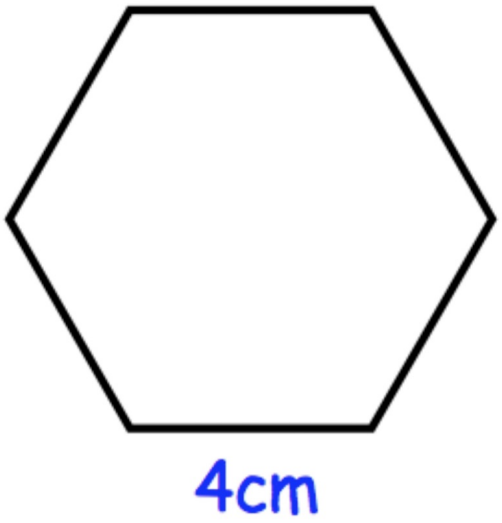
Example



Example



Example



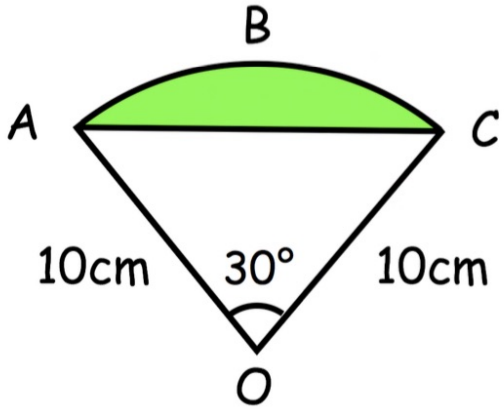
A regular hexagon has side length 4cm.

Calculate the area of the hexagon.

Example

ABC is an arc of the circle.
AC is a chord of the circle.
Angle AOC = 30°

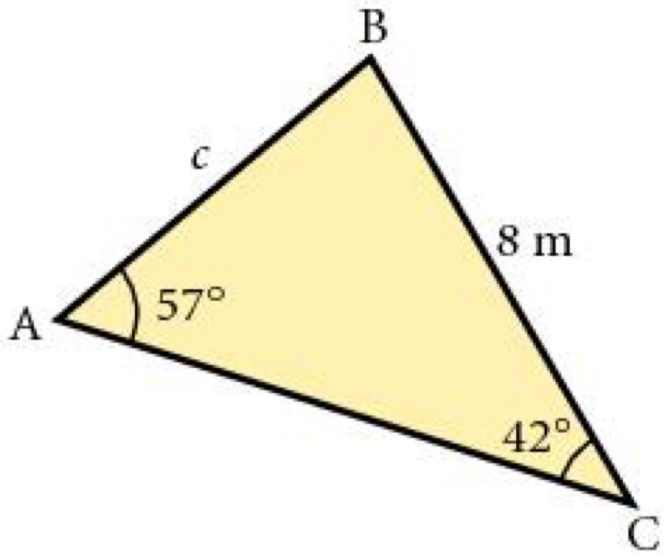
Calculate the area of the shaded segment.



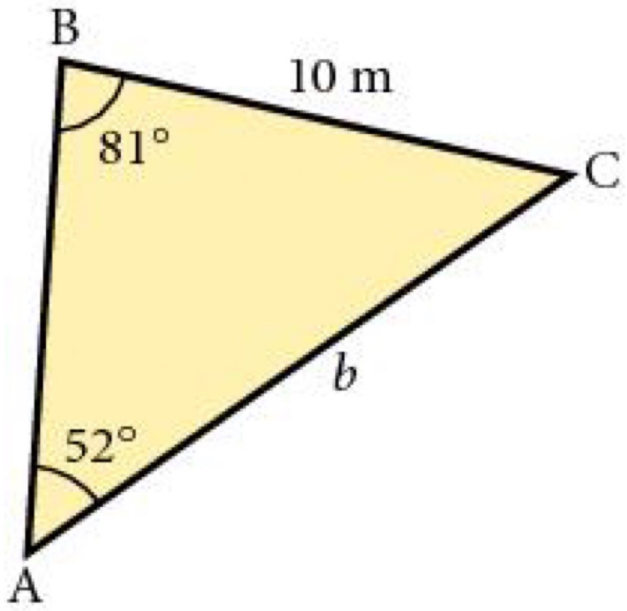
Sine Rule

Proof for formula

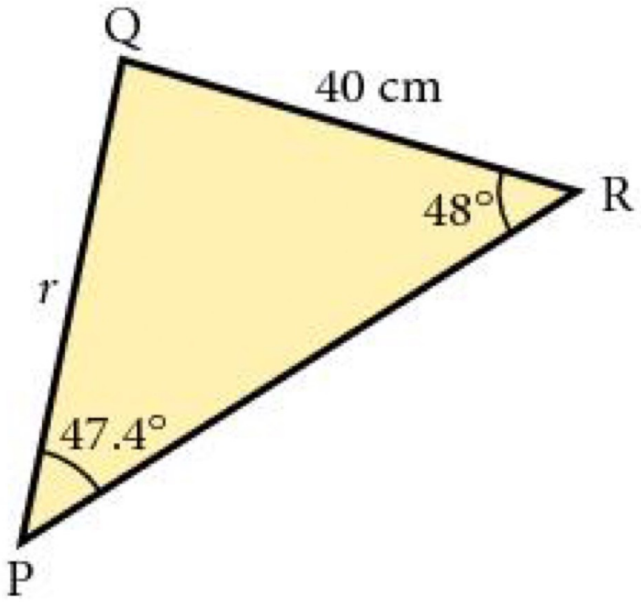
Example



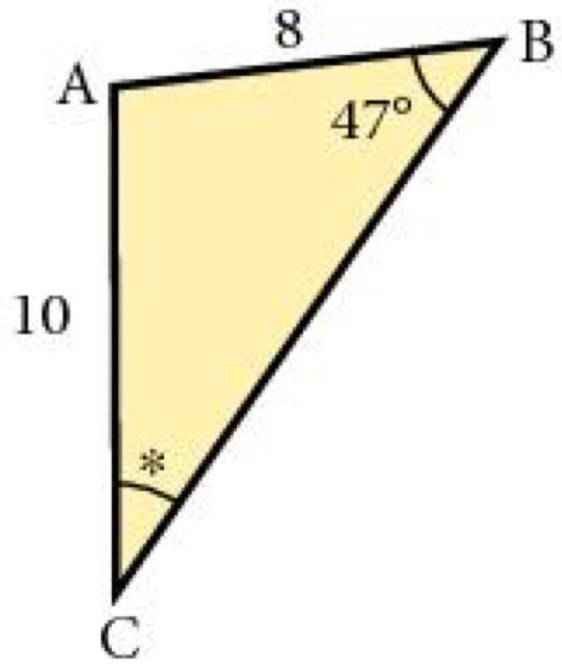
Example



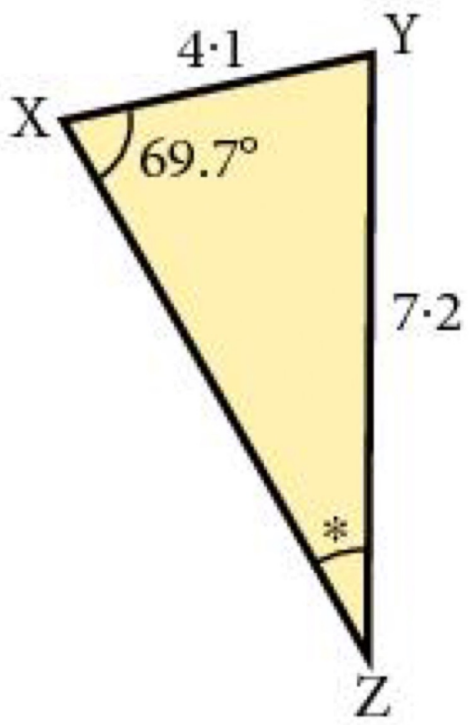
Example



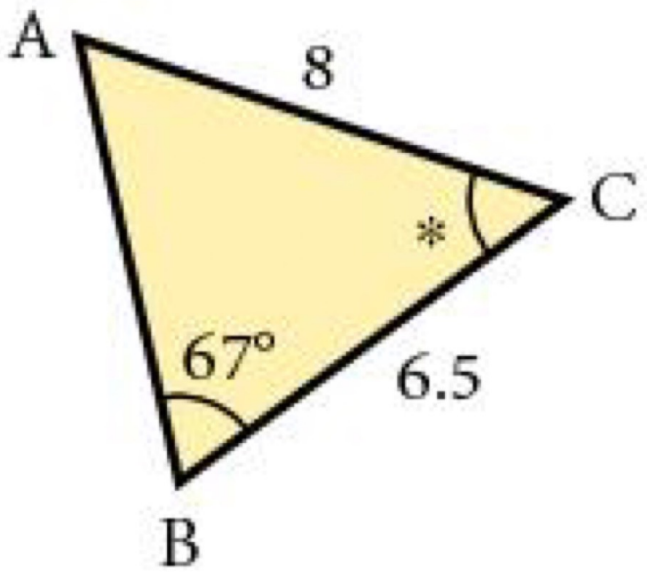
Example



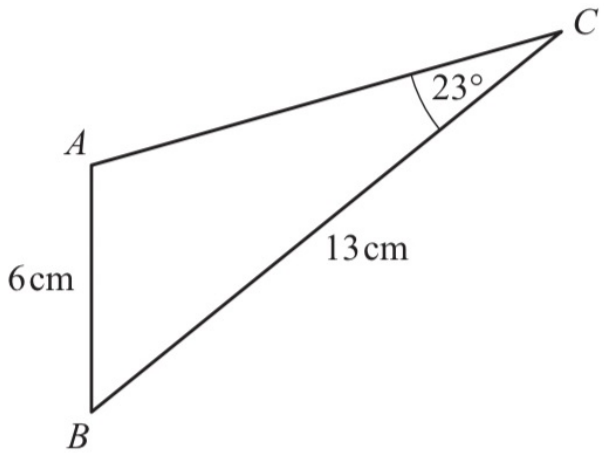
Example



Example 🌟🌟



Example

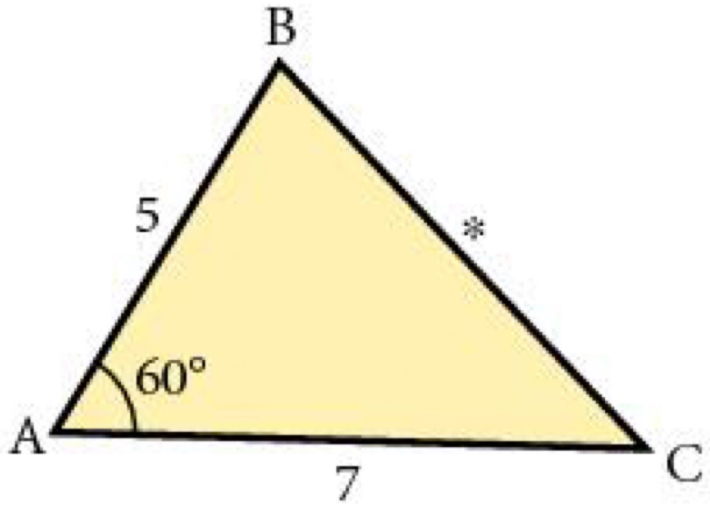


In triangle ABC, $AB = 6$ cm, $BC = 13$ cm and angle $ACB = 23°$.
Calculate angle BAC, which is obtuse.

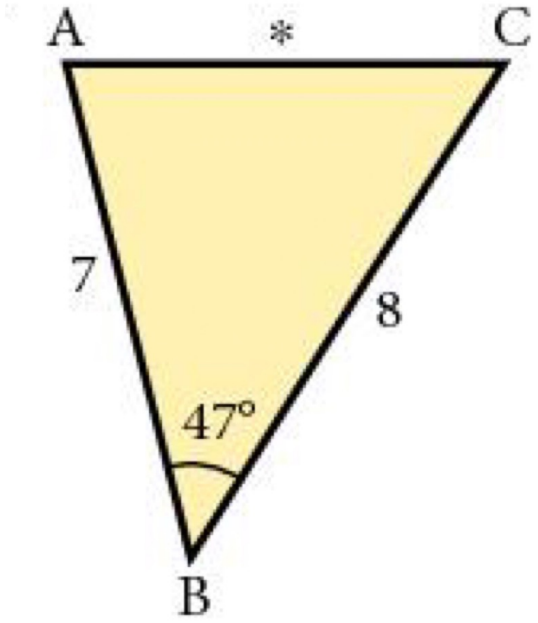
Cosine Rule

Proof for formula

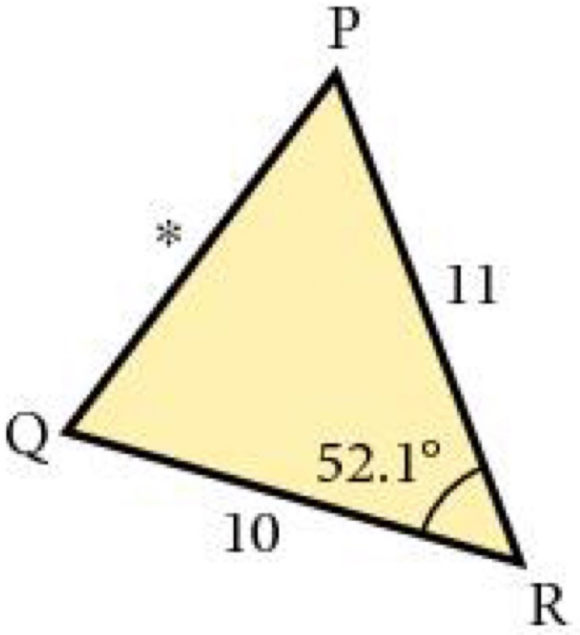
Example



Example



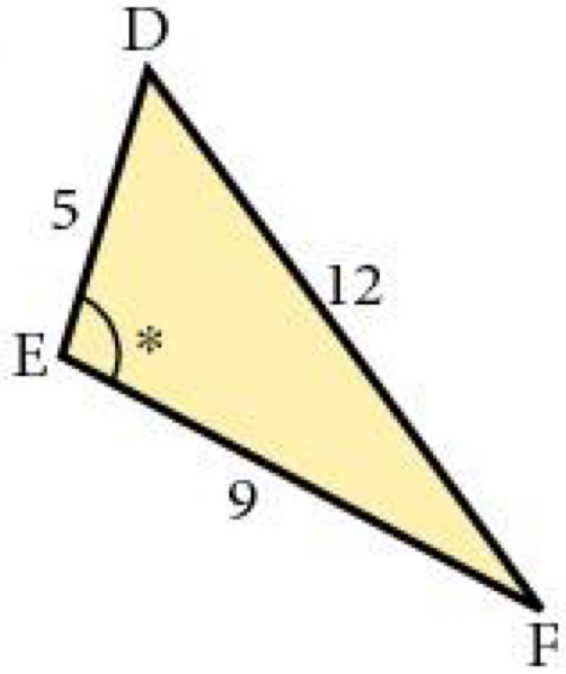
Example



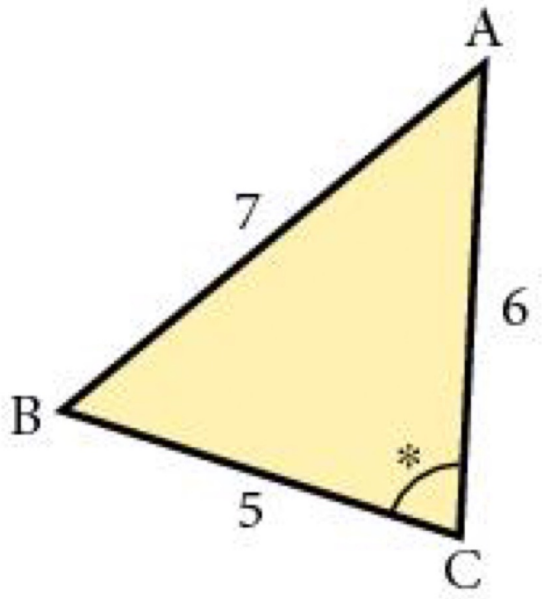
Cosine Rule

To find missing angle

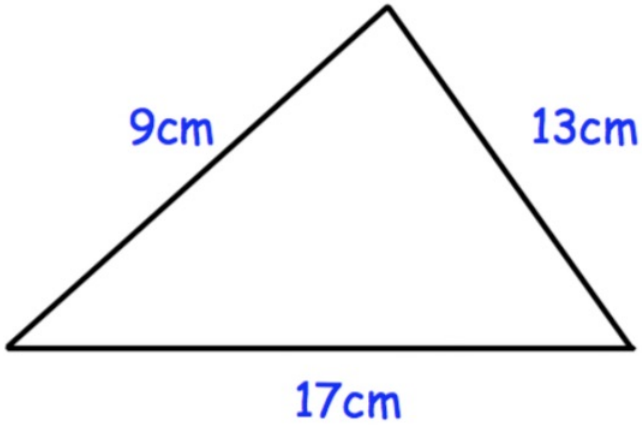
Example



Example



Example

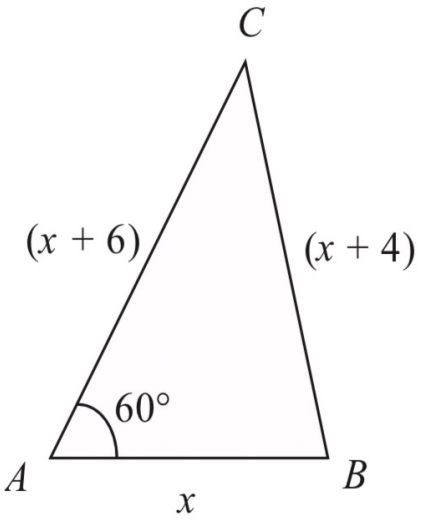


Calculate the smallest angle in the triangle.

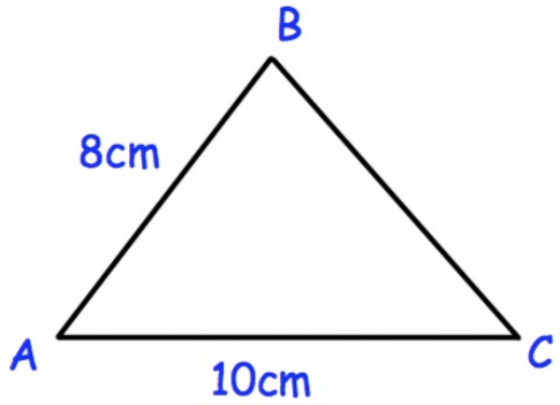
Example

The diagram shows the length, in centimetres, of each side of triangle ABC.
Angle $BAC = 60°$.

Find the value of x.



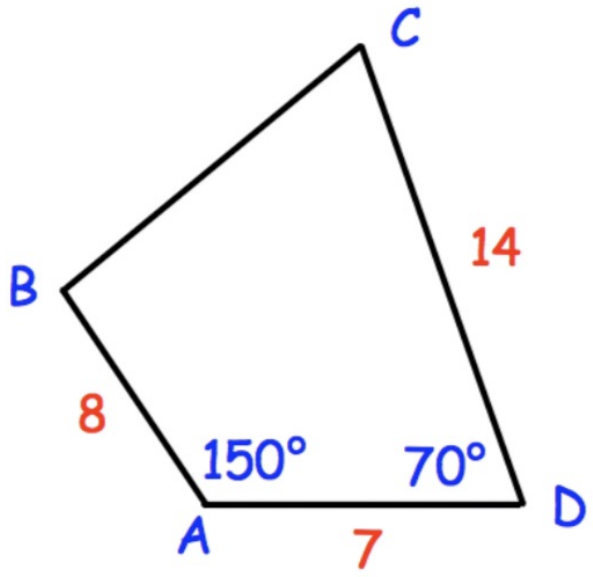
Q1.



The area of the triangle shown is 25cm².

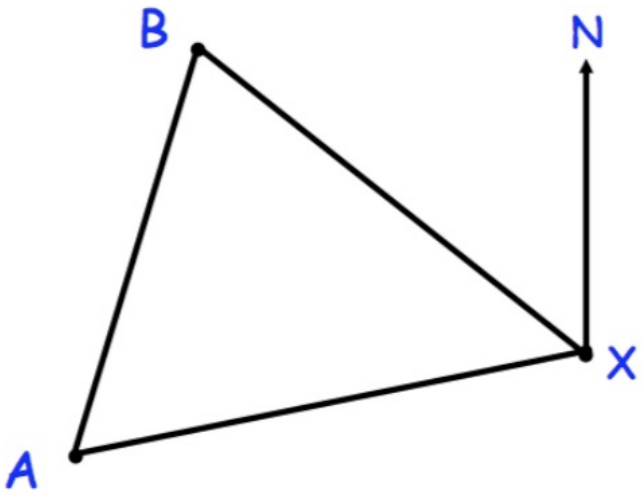
Calculate the perimeter of the triangle.

Q2. In a quadrilateral ABCD, AD = 7cm, AB = 8cm and CD = 14cm.
Angle BAD = 150° and Angle ADC = 70°



Calculate the length BC.

Q3.

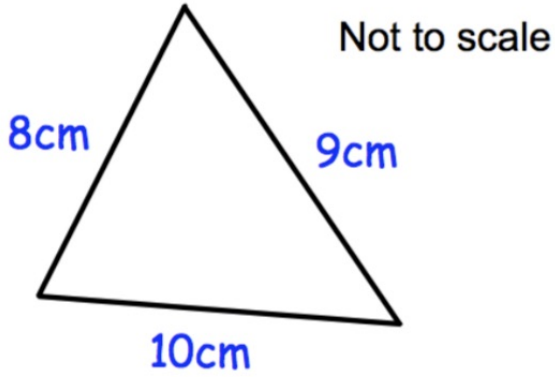


Ship A is 50km from X on a bearing of 258°.
Ship B is 44km from X on a bearing of 312°.

(a) Calculate the distance between A and B.

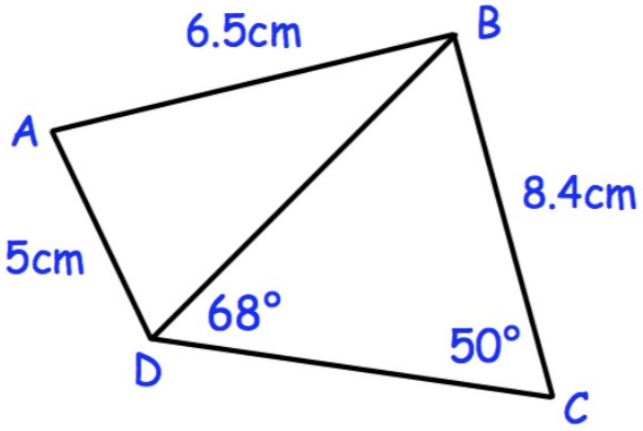
(b) Calculate the bearing of A from B.

Q4.



Find the area of the triangle.

Q5.



Calculate the size of angle ABD.