



EXAM PAPERS PRACTICE

GCSE OCR Math J560

Sine/Cos Rules &

Area of a Triangle

Question Paper

*"We will help you to
achieve A Star "*



Question 1

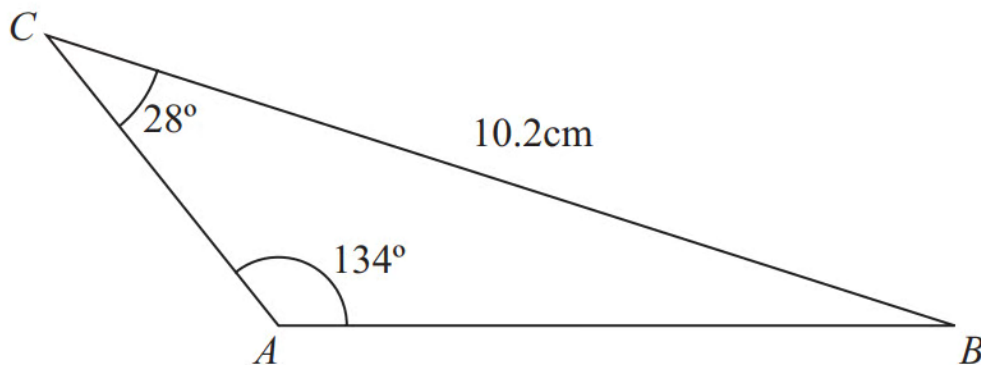
- (b) Work out the length of the side AB .
Give your answer correct to 3 significant figures.

[3 marks]

Question 2

The diagram shows triangle ABC .

Diagram **NOT**
accurately drawn



Angle $BCA = 28^\circ$
Angle $CAB = 134^\circ$
 $BC = 10.2\text{ cm}$.

Calculate the length of AB .
Give your answer correct to 3 significant figures.

[3 marks]



Question 3

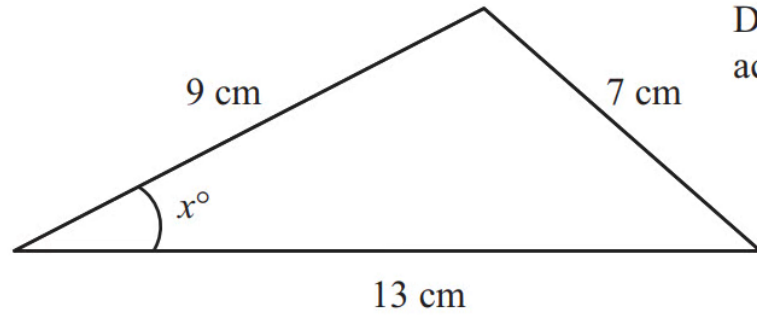


Diagram **NOT**
accurately drawn

Calculate the value of x .
Give your answer correct to 1 decimal place.

[3 marks]



Question 4

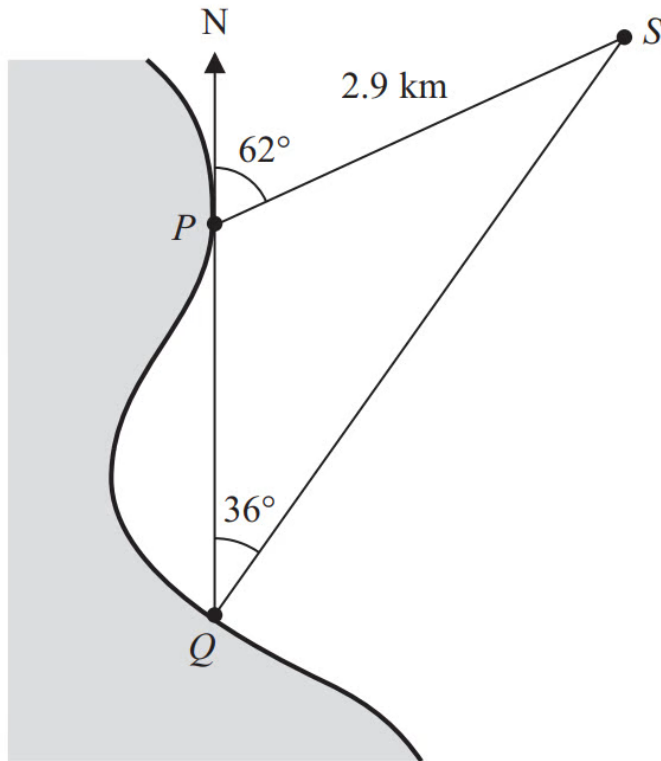


Diagram **NOT**
accurately drawn

P and Q are two points on a coast.

P is due North of Q .

A ship is at the point S .

$PS = 2.9$ km.

The bearing of the ship from P is 062°

The bearing of the ship from Q is 036°

Calculate the distance QS .

Give your answer correct to 3 significant figures.

[3 marks]



Question 5

The diagram shows a metal plate.

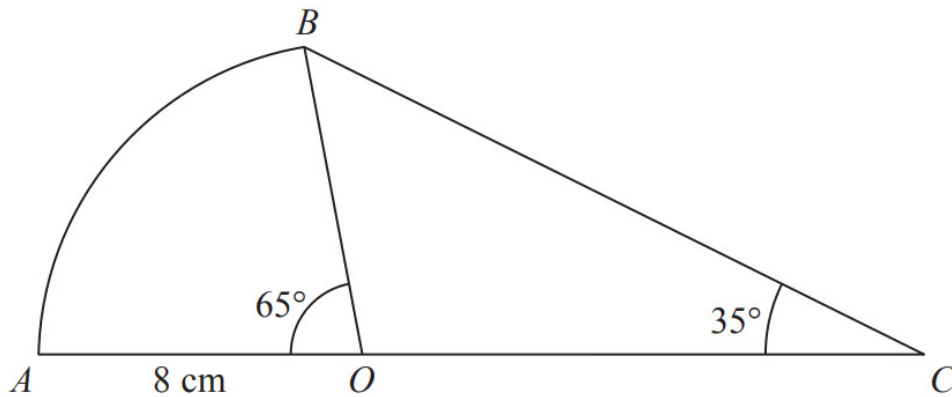


Diagram **NOT**
accurately drawn

The metal plate is made from a sector OAB of a circle, centre O , and a triangle OCB .

Angle $AOB = 65^\circ$ Angle $OCB = 35^\circ$

$OA = OB = 8$ cm.

AOC is a straight line.

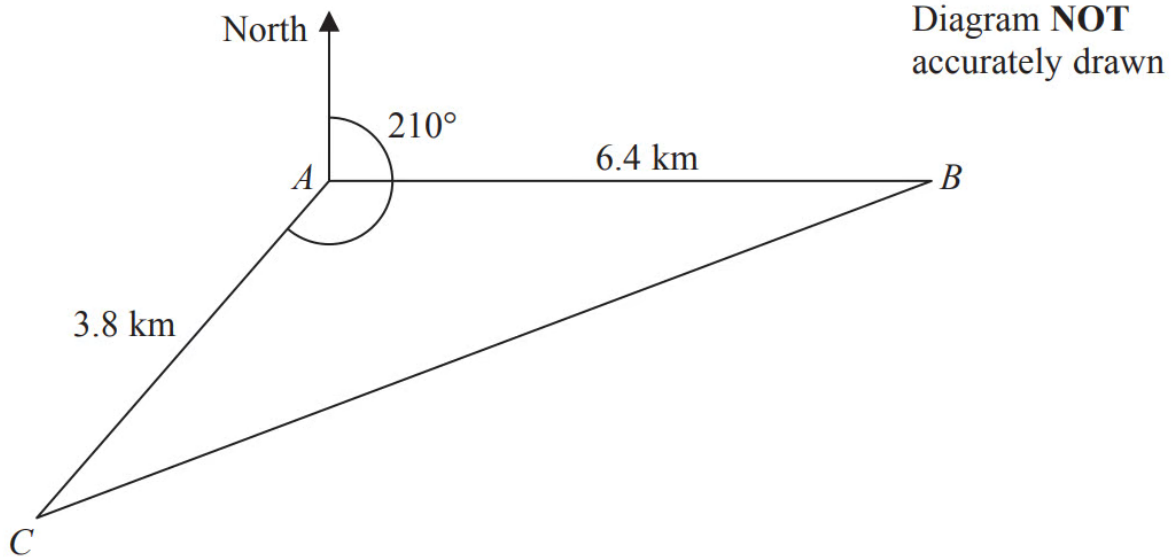
(a) Calculate the length of BC .

Give your answer correct to 3 significant figures.

[3 marks]



Question 6



A , B and C are 3 villages.
 B is 6.4 km due east of A .
 C is 3.8 km from A on a bearing of 210°

Calculate the bearing of B from C .
Give your answer correct to the nearest degree.
Show your working clearly.

[6 marks]



Question 7

The diagram shows triangle LMN .

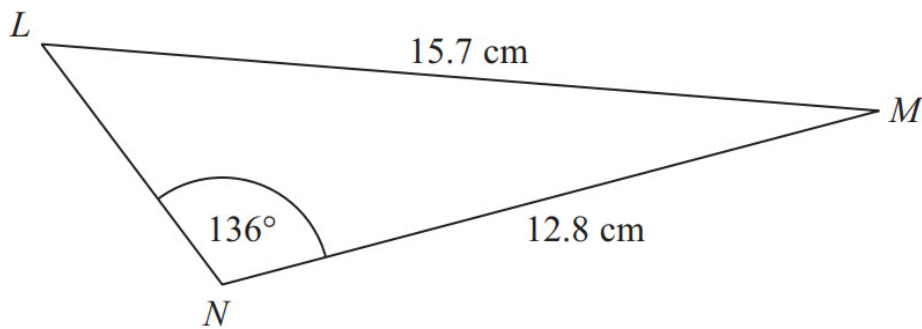


Diagram **NOT** accurately drawn

Calculate the length of LN .
Give your answer correct to 3 significant figures.

[5 marks]

Question 8

ABC is a triangle.

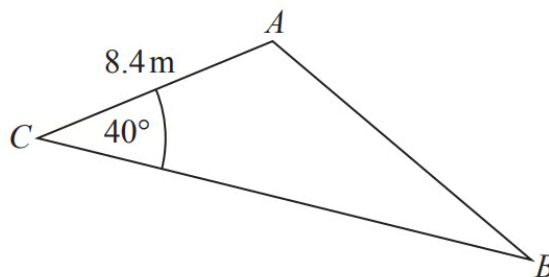


Diagram **NOT** accurately drawn

$AC = 8.4 \text{ m}$
Angle $ACB = 40^\circ$

The area of the triangle = 100 m^2 .

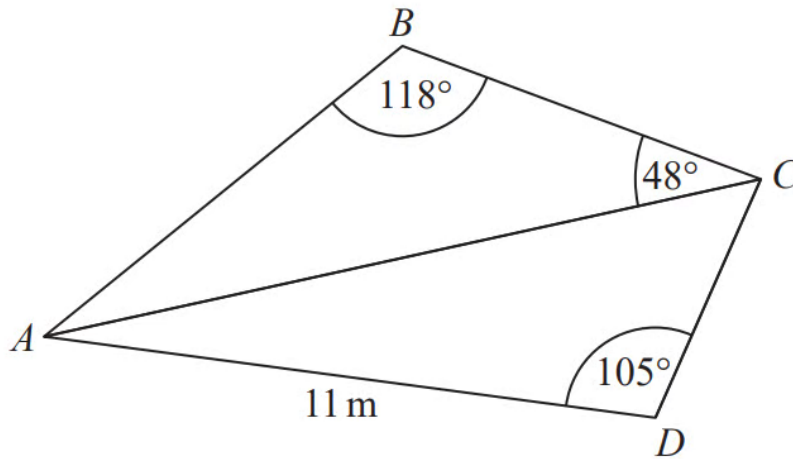
Work out the length of AB .
Give your answer correct to 3 significant figures.
You must show all your working.

[5 marks]



Question 9

ABC and ADC are triangles.



The area of triangle ADC is 56 m^2

Work out the length of AB .

Give your answer correct to 1 decimal place.

[5 marks]

Question 10

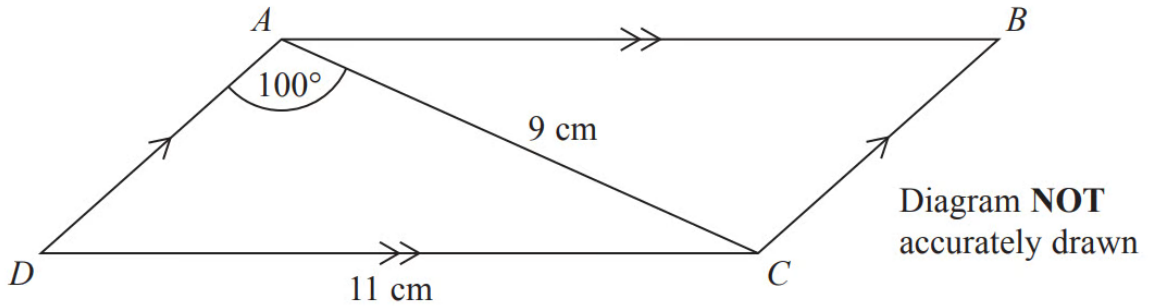
(b) If you did not know that angle PQR is an acute angle, what effect would this have on your calculation of the area of triangle RPQ ?

[1 mark]



Question 11

$ABCD$ is a parallelogram.



$$AC = 9 \text{ cm}$$

$$DC = 11 \text{ cm}$$

$$\text{Angle } DAC = 100^\circ$$

Calculate the area of the parallelogram.

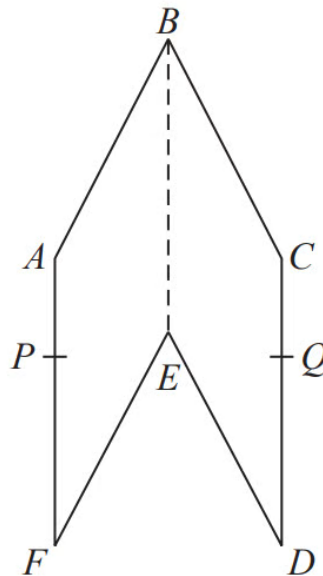
Give your answer correct to 3 significant figures.

[5 marks]



Question 12

The diagram shows a hexagon $ABCDEF$.



$ABEF$ and $CBED$ are congruent parallelograms where $AB = BC = x$ cm.
 P is the point on AF and Q is the point on CD such that $BP = BQ = 10$ cm.

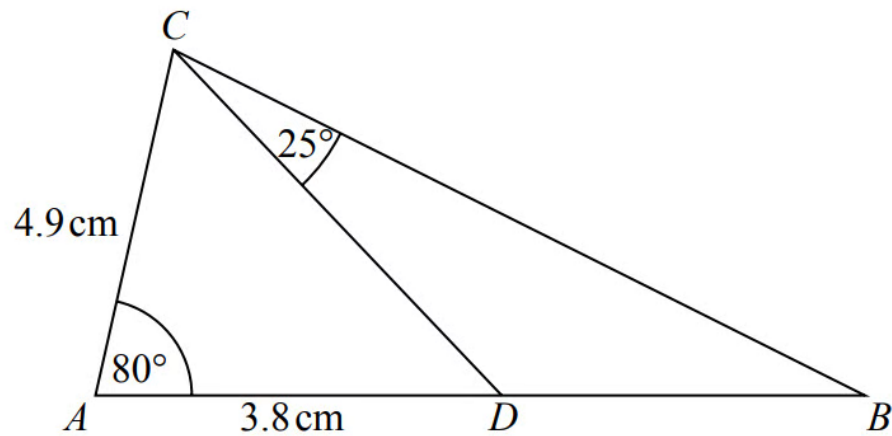
Given that angle $ABC = 30^\circ$,

prove that $\cos PBQ = 1 - \frac{(2 - \sqrt{3})}{200}x^2$

[5 marks]



Question 13



ABC is a triangle.
 D is a point on AB .

Work out the area of triangle BCD .
Give your answer correct to 3 significant figures.

[5 marks]



Question 14

The diagram shows the triangle PQR .

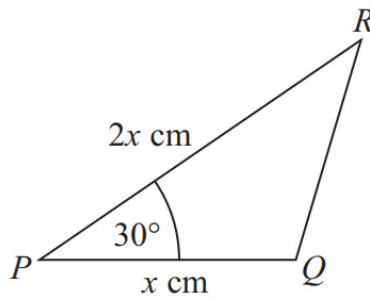


Diagram **NOT**
accurately drawn

$$PQ = x \text{ cm}$$

$$PR = 2x \text{ cm}$$

$$\text{Angle } QPR = 30^\circ$$

The area of triangle $PQR = A \text{ cm}^2$

Show that $x = \sqrt{2A}$

[3 marks]



Question 15

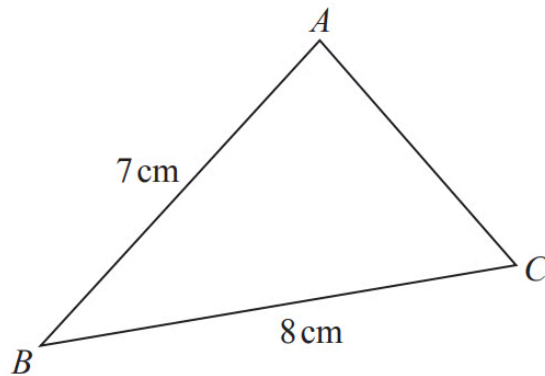


Diagram **NOT**
accurately drawn

ABC is an acute-angled triangle.

$BA = 7\text{ cm}$

$BC = 8\text{ cm}$

The area of triangle ABC is 18 cm^2 .

Work out the size of angle BAC .

Give your answer correct to 3 significant figures.

You must show all your working.

[6 marks]