

Year 1 Pure Chapter 9: Trigonometric Ratios – Exam Questions (Total Marks 39)

1.

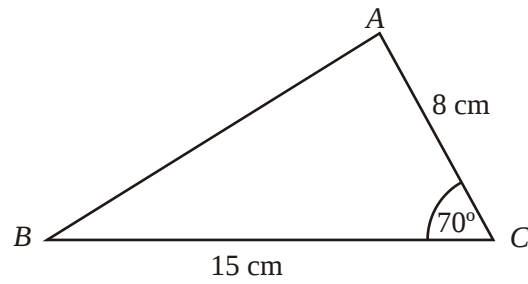


Diagram **NOT** accurately drawn

In triangle ABC ,
 $AC = 8$ cm,
 $BC = 15$ cm,
Angle $ACB = 70^\circ$.

- (a) Calculate the length of AB .
Give your answer correct to 3 significant figures.

..... cm

(3)

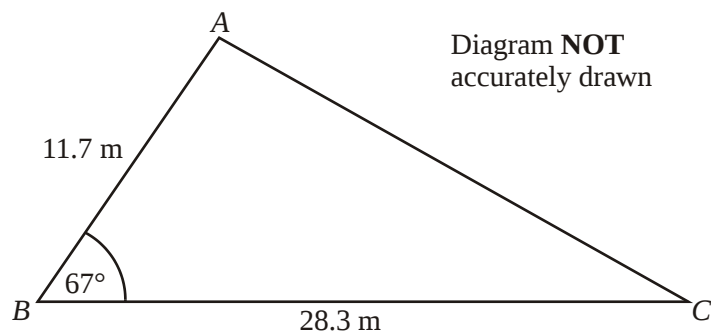
- (b) Calculate the size of angle BAC .
Give your answer correct to 1 decimal place.

..... $^\circ$

(2)

(Total 5 marks)

2.



$AB = 11.7$ m.
 $BC = 28.3$ m.
Angle $ABC = 67^\circ$.

- (a) Calculate the area of the triangle ABC .
Give your answer correct to 3 significant figures.

..... m^2

(2)

- (b) Calculate the length of AC .
Give your answer correct to 3 significant figures.

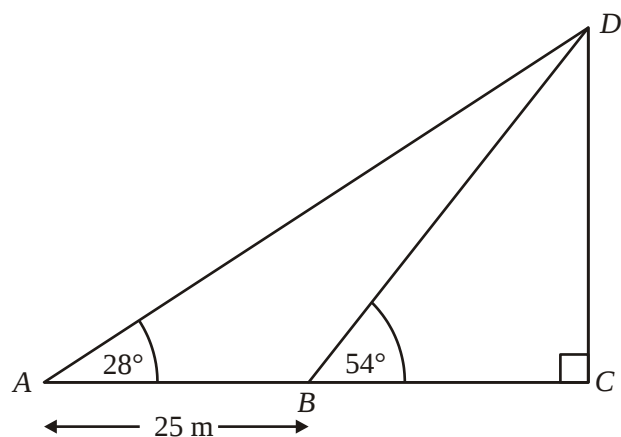
..... m

(3)

(Total 5 marks)

3.

Diagram **NOT** accurately drawn



The diagram shows a vertical tower DC on horizontal ground ABC .
 ABC is a straight line.

The angle of elevation of D from A is 28° .

The angle of elevation of D from B is 54° .

$AB = 25$ m.

Calculate the height of the tower.

Give your answer correct to 3 significant figures.

..... m
(Total 5 marks)

4.

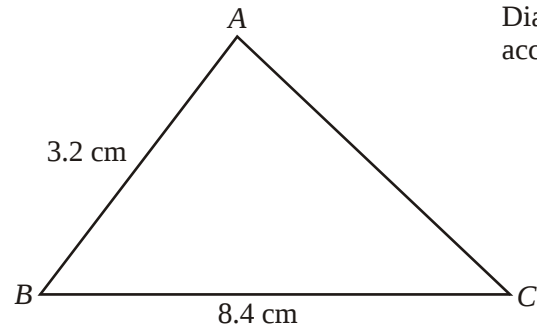


Diagram **NOT**
accurately drawn

$AB = 3.2 \text{ cm}$
 $BC = 8.4 \text{ cm}$

The area of triangle ABC is 10 cm^2 .

Calculate the perimeter of triangle ABC .
Give your answer correct to three significant figures.

..... cm
(Total 6 marks)

5.

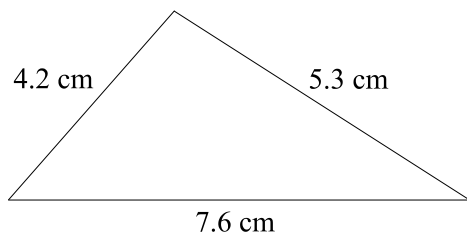


Diagram **NOT** accurately drawn

The lengths of the sides of a triangle are 4.2 cm, 5.3 cm and 7.6 cm.

- (a) Calculate the size of the largest angle of the triangle.
Give your answer correct to 1 decimal place.

.....°

(3)

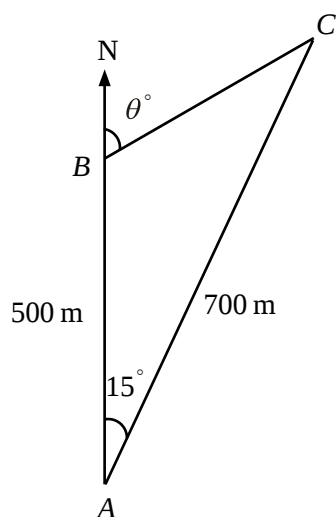
- (b) Calculate the area of the triangle.
Give your answer correct to 3 significant figures.

..... cm²

(3)

(Total 6 marks)

6.



The diagram above shows 3 yachts A , B and C which are assumed to be in the same horizontal plane. Yacht B is 500 m due north of yacht A and yacht C is 700 m from A . The bearing of C from A is 015° .

- (a) Calculate the distance between yacht B and yacht C , in metres to 3 significant figures.

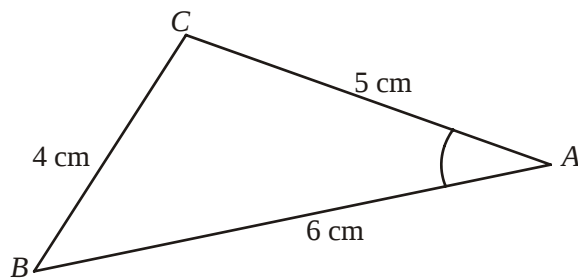
(3)

The bearing of yacht C from yacht B is θ° , as shown in the diagram.

- (b) Calculate the value of θ .

(4)
(Total 7 marks)

7.



The diagram above shows the triangle ABC , with $AB = 6$ cm, $BC = 4$ cm and $CA = 5$ cm.

- (a) Show that $\cos A = \frac{3}{4}$.

(3)

- (b) Hence, or otherwise, find the exact value of $\sin A$.

(2)

(Total 5 marks)