

Trigonometry and Pythagoras

Question Paper 1

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Topic	Shape, Space and Measures
Sub Topic	Trigonometry & Pythagoras(Trigonometry & Pythagoras Theorem)
Booklet	Question Paper 1

Time Allowed: 58 minutes

Score: /48

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	70%	60%	55%	50%	<50%

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1

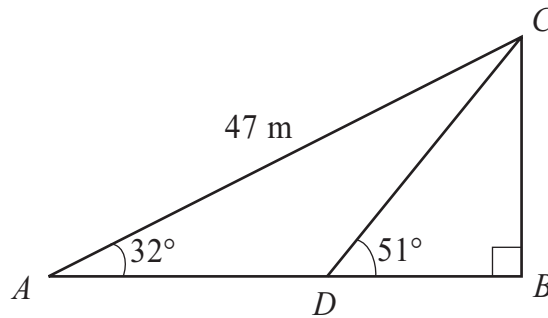


Diagram **NOT** accurately drawn

Triangle *ABC* is right-angled at *B*.
Angle *BAC* = 32°
AC = 47 m.
D is the point on *AB* such that angle *BDC* = 51°

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

..... m

(Total for Question 1 is 5 marks)

2

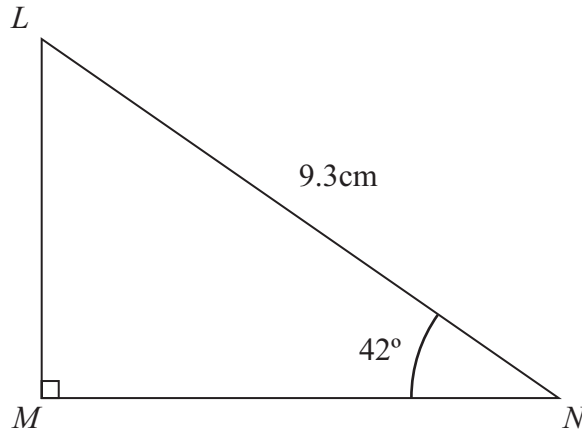


Diagram **NOT** accurately drawn

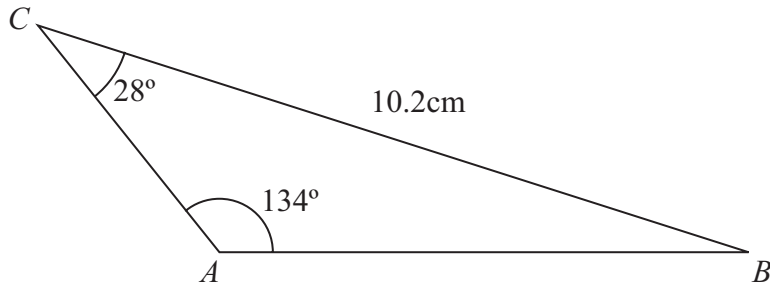
Calculate the length of LM .
Give your answer correct to 3 significant figures.

..... cm

(Total for Question 2 is 3 marks)

3 The diagram shows triangle ABC .

Diagram **NOT**
accurately drawn



Angle $BCA = 28^\circ$

Angle $CAB = 134^\circ$

$BC = 10.2$ cm.

Calculate the length of AB .

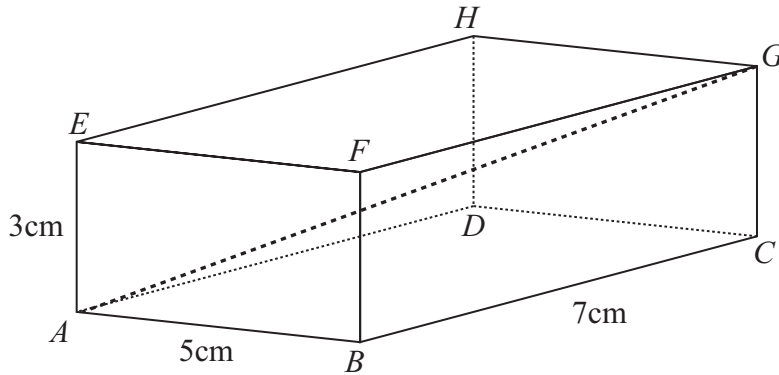
Give your answer correct to 3 significant figures.

..... cm

(Total for Question 3 is 3 marks)

4

Diagram NOT accurately drawn



The diagram shows a cuboid $ABCDEFGH$.

$AB = 5\text{cm}$

$BC = 7\text{cm}$

$AE = 3\text{cm}$

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

..... cm
(3)

- (b) Calculate the size of the angle between AG and the plane $ABCD$.
Give your answer correct to 1 decimal place.

.....
(2)

(Total for Question 4 is 5 marks)

5

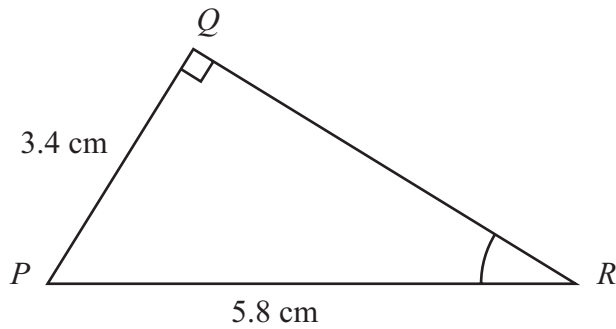


Diagram **NOT** accurately drawn

Triangle PQR has a right angle at Q .

$PQ = 3.4$ cm and $PR = 5.8$ cm.

- (a) Work out the size of angle QRP .
Give your answer correct to 1 decimal place.

.....
(3)

The length 5.8 cm, of PR , is correct to 2 significant figures.

- (b) (i) Write down the upper bound of the length of PR .

..... cm

- (ii) Write down the lower bound of the length of PR .

..... cm
(2)

(Total for Question 5 is 5 marks)

6

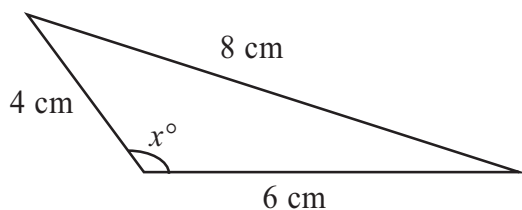


Diagram **NOT** accurately drawn

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

$x = \dots\dots\dots$

(Total for Question 6 is 3 marks)

7

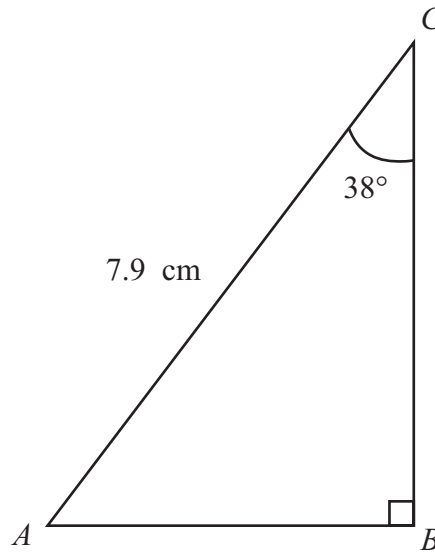


Diagram **NOT** accurately drawn

ABC is a triangle.
 $AC = 7.9$ cm
Angle $B = 90^\circ$
Angle $C = 38^\circ$

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

..... cm
(3)

- (b) The size of angle C is 38° , correct to 2 significant figures.

- (i) Write down the lower bound of the size of angle C .

.....
.....

- (ii) Write down the upper bound of the size of angle C .

.....
.....
(2)

(Total for Question 7 is 5 marks)

8

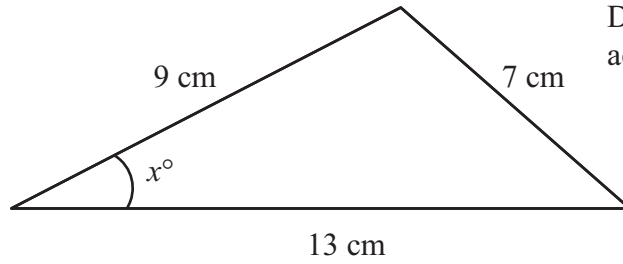


Diagram **NOT** accurately drawn

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

$x = \dots\dots\dots$

(Total for Question 8 is 3 marks)

- 9 The diagram shows a pyramid with a horizontal rectangular base $PQRS$.
 $PQ = 16$ cm.
 $QR = 10$ cm.
 M is the midpoint of the line PR .
The vertex, T , is vertically above M .
 $MT = 15$ cm.

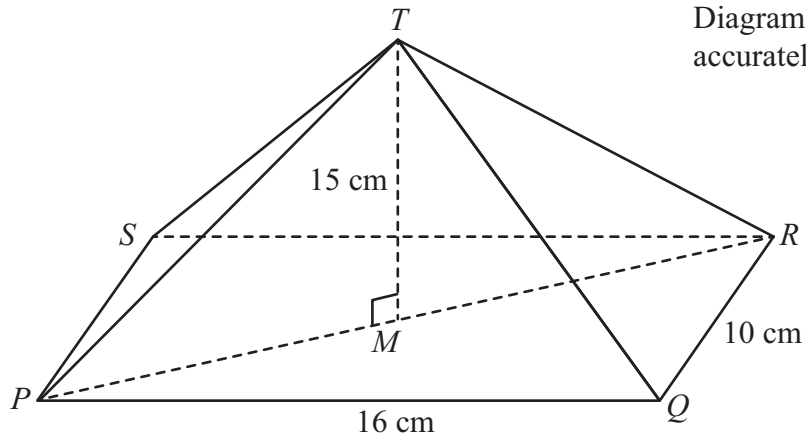
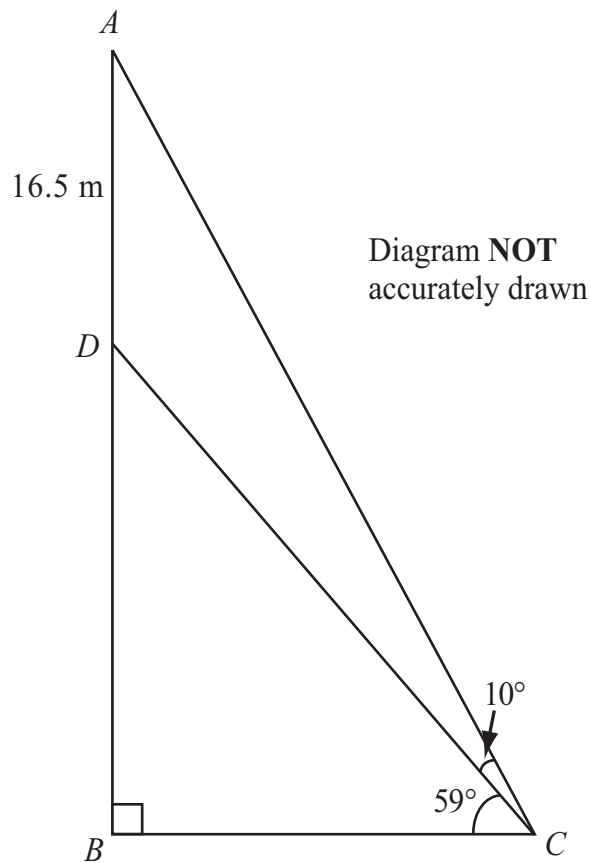


Diagram **NOT**
accurately drawn

Calculate the size of the angle between TP and the base $PQRS$.
Give your answer correct to 1 decimal place.

.....
(Total for Question 9 is 4 marks)

10



The diagram shows a vertical flagpole in Chennai, India.

The point A is at the top of the flagpole.

The point B is at the foot of the flagpole.

There is a platform at the point D on the flagpole.

B and C are points on horizontal ground.

$AD = 16.5$ m

The angle of elevation of A from C is 69°

The angle of elevation of D from C is 59°

Calculate the height, AB , of the flagpole.

Give your answer correct to 3 significant figures.

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..... m

(Total for Question 10 is 6 marks)

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11

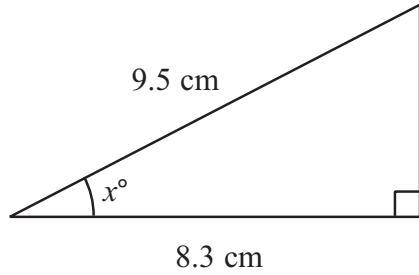


Diagram **NOT** accurately drawn

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

$x = \dots\dots\dots$

(Total for Question 11 is 3 marks)

12

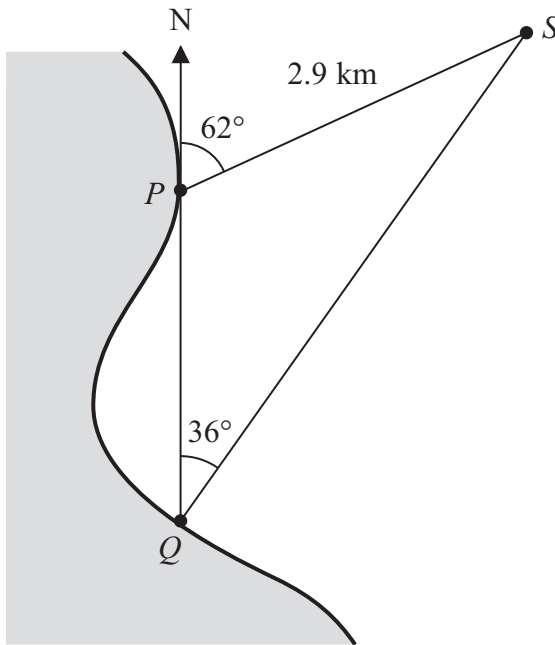


Diagram NOT accurately drawn

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.

..... km

(Total for Question 12 is 3 marks)