

Write your name here

Surname

Other names

In the style of:

Pearson Edexcel

Level 1/Level 2 GCSE (9 - 1)

Centre Number

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Candidate Number

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Mathematics

Trigonometry

Higher Tier

GCSE style questions arranged by topic

Paper Reference

1MA1/2H

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- **Calculators may be used.**
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out.**



Information

- The total mark for this paper is
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►



- 1 ABC is a right-angled triangle. $AB = 18$ cm and $BC = 6$ cm.
The line BD bisects the angle ABC .

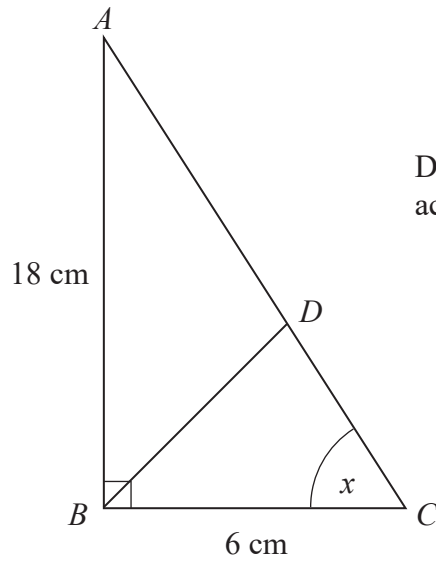


Diagram **NOT** accurately drawn

- (a) Write down the value of $\tan x$.

.....

- (b) Calculate the length BD .

(1)

..... cm

(5)

(Total for Question 1 is 6 marks)

2 Here is a right-angled triangle.

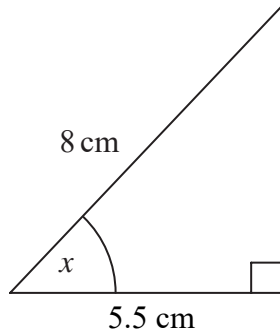


Diagram **NOT**
accurately drawn

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

$$x = \text{.....}^\circ$$

(3)

Here is another right-angled triangle.

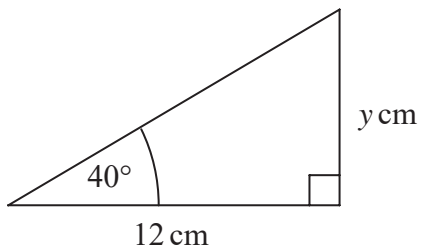


Diagram **NOT**
accurately drawn

- (b) Calculate the value of y .
Give your answer correct to 1 decimal place.

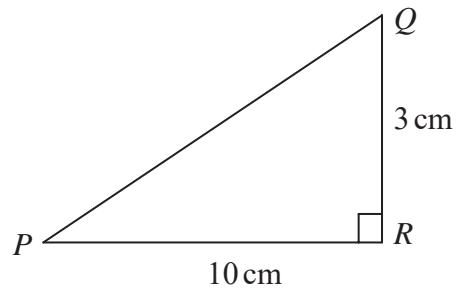
$$y = \text{.....}$$

(3)

(Total for Question 2 is 6 marks)

3

Diagram **NOT**
accurately drawn



PQR is a right-angled triangle.

$QR = 3 \text{ cm}$
 $PR = 10 \text{ cm}$

Work out the size of angle RPQ .
Give your answer correct to 3 significant figures.

.....
(Total for Question 3 is 3 marks)

4

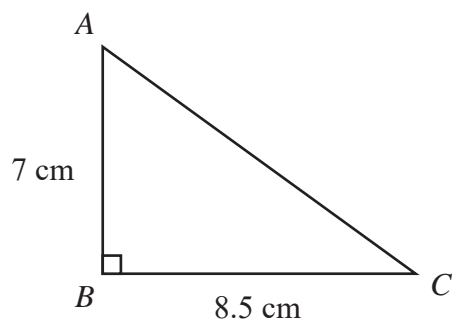


Diagram **NOT**
accurately drawn

ABC is a right-angled triangle.

$AB = 7$ cm,

$BC = 8.5$ cm.

(a) Work out the area of the triangle.

..... cm²

(2)

(b) Work out the length of AC .

Give your answer correct to 2 decimal places.

..... cm

(3)

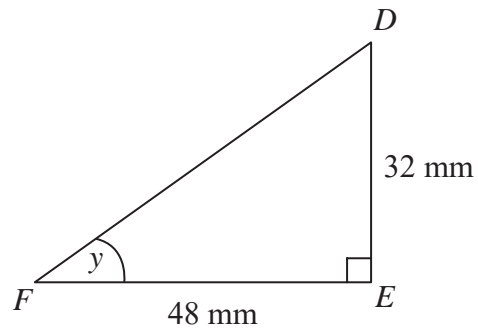


Diagram **NOT**
accurately drawn

DEF is another right-angled triangle.

$DE = 32\text{ mm}$,

$FE = 48\text{ mm}$.

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

.....°
(3)

(Total for Question 4 is 8 marks)

5

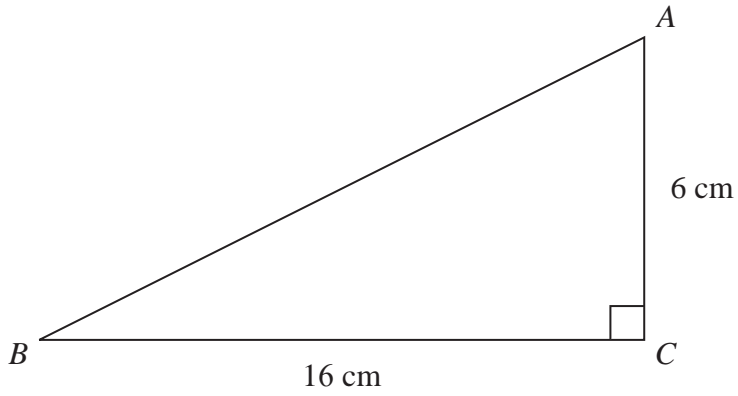


Diagram **NOT**
accurately drawn

ABC is a right-angled triangle.

$AC = 6$ cm.

$BC = 16$ cm.

(a) Work out the area of triangle ABC .

..... cm^2

(2)

(b) Calculate the length of AB .

Give your answer correct to 2 decimal places.

..... cm

(3)

(Total for Question 5 is 5 marks)

6

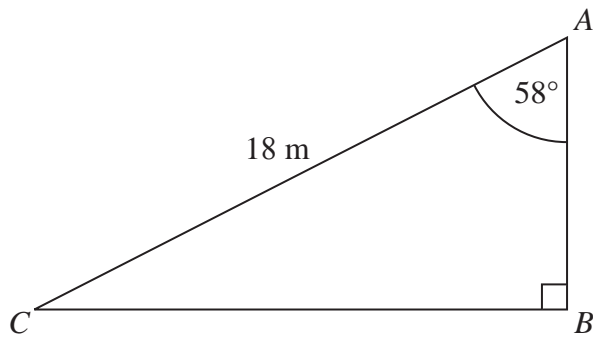


Diagram **NOT**
accurately drawn

ABC is a right-angled triangle.

$AC = 18$ m.

Angle $CAB = 58^\circ$

Calculate the length of AB .

Give your answer correct to 3 significant figures.

..... m

(Total for Question 6 is 3 marks)

7

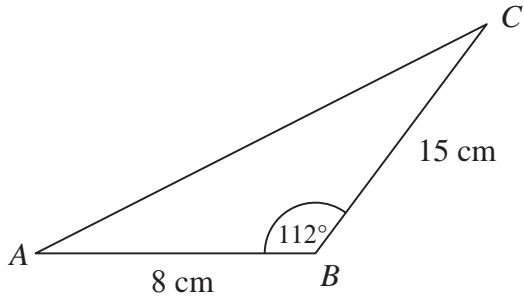


Diagram **NOT**
accurately drawn

ABC is a triangle.
 $AB = 8$ cm
 $BC = 15$ cm
Angle $ABC = 112^\circ$

Calculate the area of the triangle.
Give your answer correct to 3 significant figures.

..... cm²

(Total for Question 7 is 3 marks)

- 8 Town B is 4.6 km due West of town C .
 Town A is 2.3 km due North of town B .

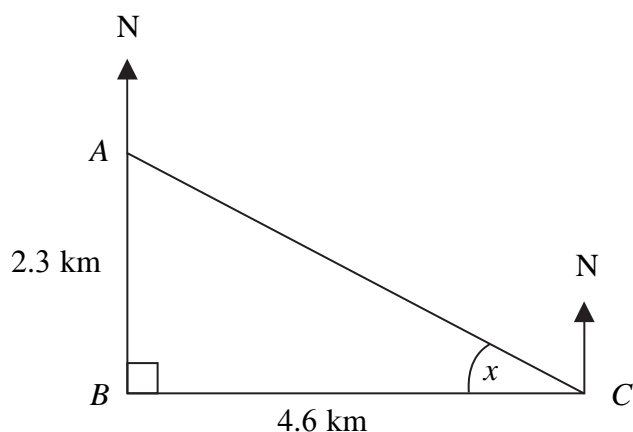


Diagram **NOT**
accurately drawn

- (a) Calculate the size of the angle marked x .
 Give your answer correct to 3 significant figures.

$x = \dots\dots\dots^\circ$
 (3)

- (b) Find the bearing of town C from town A .
 Give your answer correct to 3 significant figures.

$\dots\dots\dots^\circ$
 (1)

(Total for Question 8 is 4 marks)

9

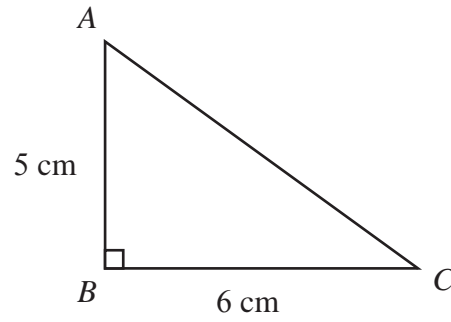


Diagram **NOT**
accurately drawn

ABC is a right-angled triangle.

$AB = 5$ cm,

$BC = 6$ cm.

(a) Work out the area of the triangle.

..... cm^2
(2)

(b) Work out the length of AC .

Give your answer correct to 2 decimal places.

..... cm
(3)

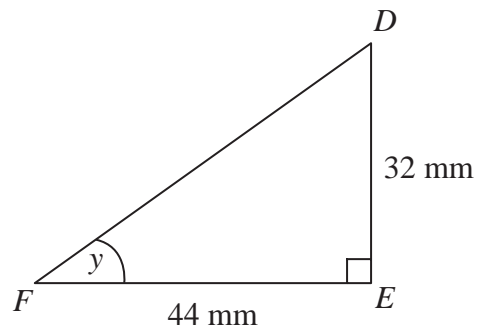


Diagram **NOT**
accurately drawn

DEF is another right-angled triangle.

DE = 32 mm,

FE = 44 mm.

- (c) Calculate the size of angle *y*.
Give your answer correct to 1 decimal place.

.....
°
(3)

(Total for Question 9 is 8 marks)

10

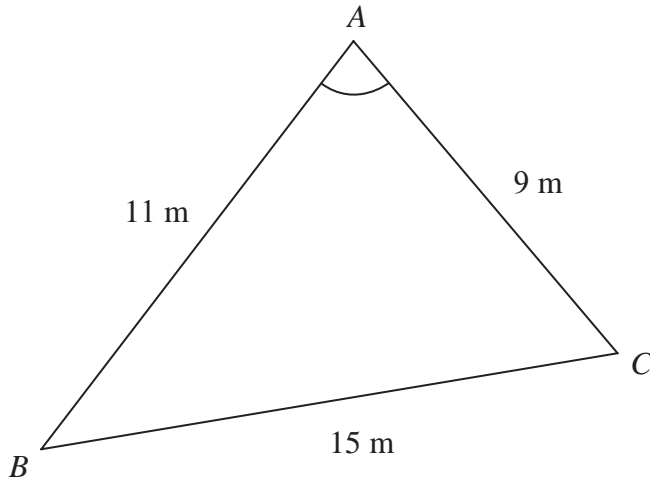


Diagram **NOT**
accurately drawn

ABC is a triangle.

$AB = 11$ m.

$AC = 9$ m.

$BC = 15$ m.

Calculate the size of angle BAC .

Give your answer correct to one decimal place.

.....
o

(Total for Question 10 is 3 marks)

11

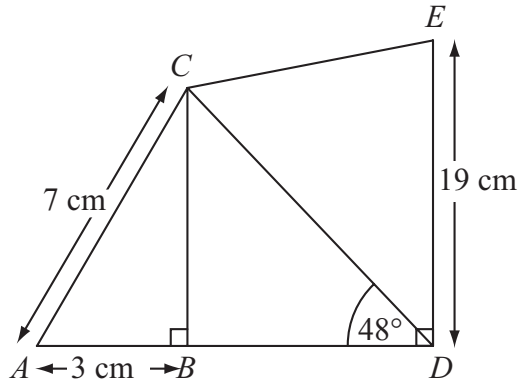


Diagram **NOT** accurately drawn

$AC = 7 \text{ cm}$. $AB = 3 \text{ cm}$. $DE = 19 \text{ cm}$.

Angle $ABC = \text{angle } CBD = \text{angle } BDE = 90^\circ$

Angle $BDE = 48^\circ$

Calculate the length of CD

Give your answer correct to 3 significant figures.

..... cm

(4)

(b) Calculate the length of CE .

Give your answer correct to 3 significant figures.

..... cm

(3)

(Total for Question 11 is 7 marks)

12

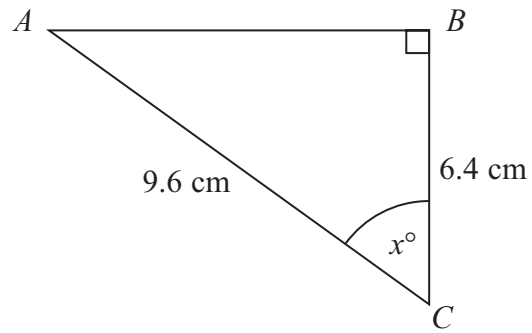


Diagram **NOT**
accurately drawn

ABC is a right-angled triangle.

$AC = 9.6 \text{ cm}$.

$BC = 6.4 \text{ cm}$.

Calculate the size of the angle marked x° .

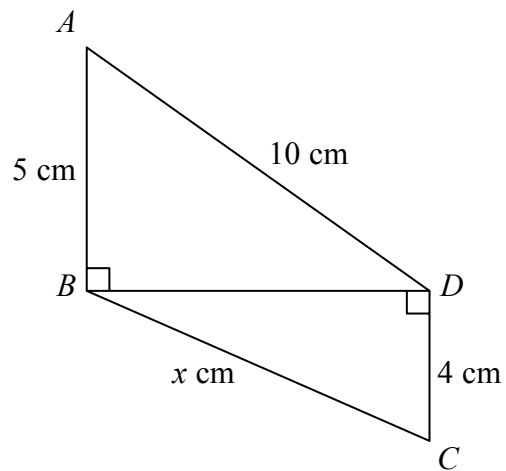
Give your answer correct to 1 decimal place.

o

.....

(Total for Question 12 is 3 marks)

13 Triangles ABD and BCD are right-angled triangles.



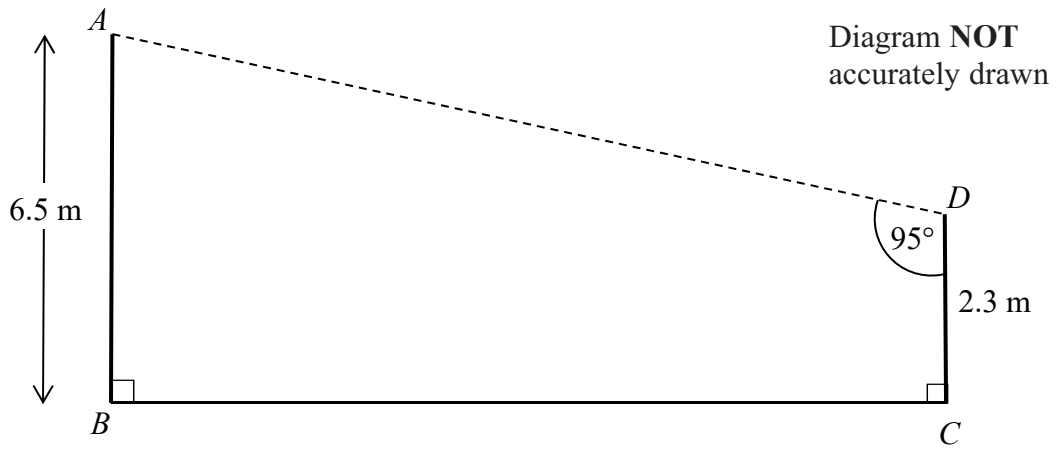
Work out the value of x .
Give your answer correct to 2 decimal places.

.....
(Total for Question 13 is 4 marks)

14

The diagram shows a design for a zipwire.

The zipwire will run between the top of two vertical posts, AB and CD .



Work out the distance AD .

..... m

(Total for Question 14 is 4 marks)

15 In the triangle, angle y is obtuse.

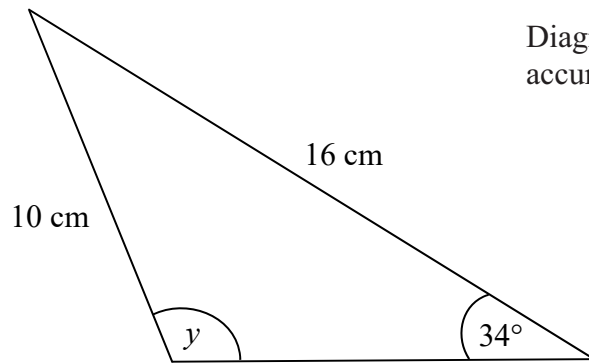


Diagram **NOT** accurately drawn

Work out the size of angle y .

.....^o

(Total for Question 15 is 3 marks)