

TRIGONOMETRY (SOH CAH TOA)

[ESTIMATED TIME: 70 minutes]

GCSE

(+ IGCSE) EXAM QUESTION PRACTICE

1.

[3 marks]

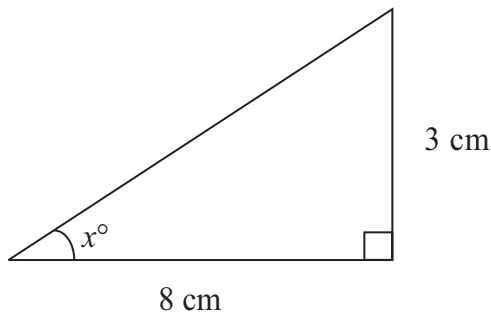


Diagram **NOT**
accurately drawn

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

$x = \dots\dots\dots$

2.

[3 marks]

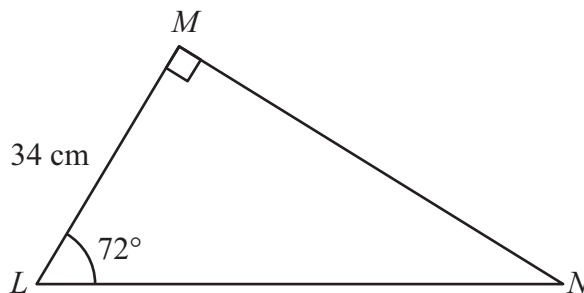


Diagram **NOT**
accurately drawn

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

$\dots\dots\dots$ cm

- (a) The diagram shows triangle PQR .

$$PQ = 4 \text{ cm.}$$

$$PR = 8 \text{ cm.}$$

$$\text{Angle } PQR = 90^\circ.$$

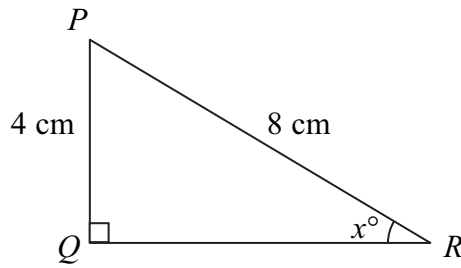


Diagram **NOT**
accurately drawn

Calculate the value of x .

$$x = \dots\dots\dots$$

(3)

- (b) The diagram shows triangle LMN .

$$MN = 12 \text{ cm.}$$

$$\text{Angle } LMN = 32^\circ.$$

$$\text{Angle } MLN = 90^\circ.$$

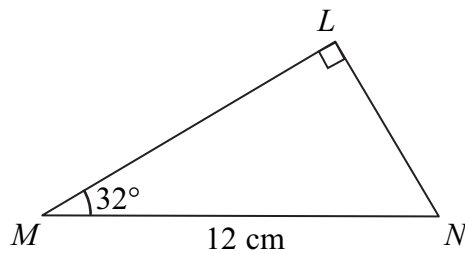


Diagram **NOT**
accurately drawn

Calculate the length of ML .

Give your answer correct to 3 significant figures.

$$\dots\dots\dots \text{ cm}$$

(3)

(a)

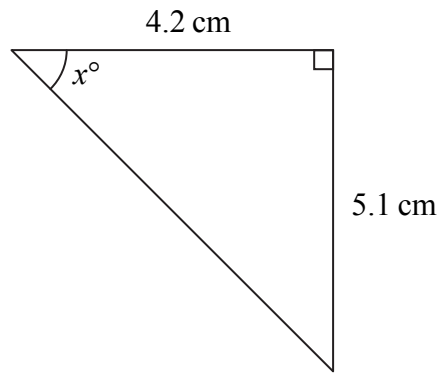


Diagram **NOT**
accurately drawn

Calculate the value of x .
Give your answer correct to 3 significant figures.

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

(b)

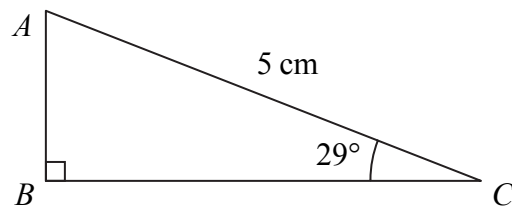


Diagram **NOT**
accurately drawn

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

$\dots\dots\dots$ cm
(3)

5.

[3 marks]

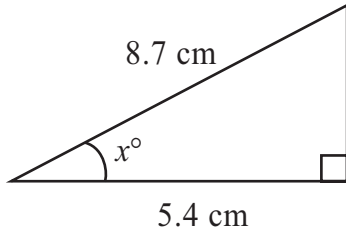


Diagram **NOT**
accurately drawn

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

$x = \dots\dots\dots$

6.

[3 marks]

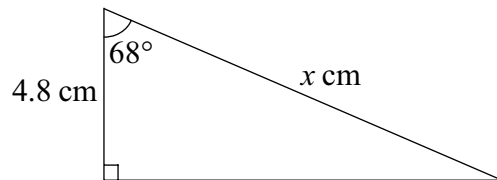


Diagram **NOT**
accurately drawn

Calculate the value of x .

$x = \dots\dots\dots$

7.

[3 marks]

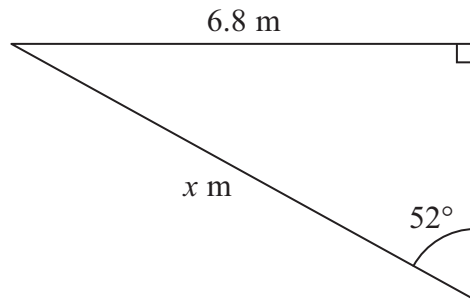


Diagram **NOT**
accurately drawn

Calculate the value of x .
Give your answer correct to 3 significant figures.

$x = \dots\dots\dots$

8.

[3 marks]

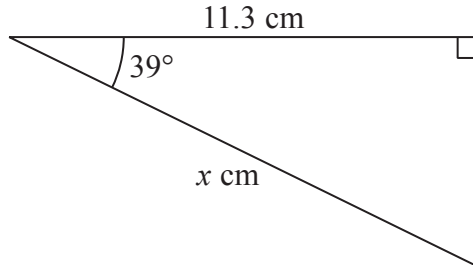
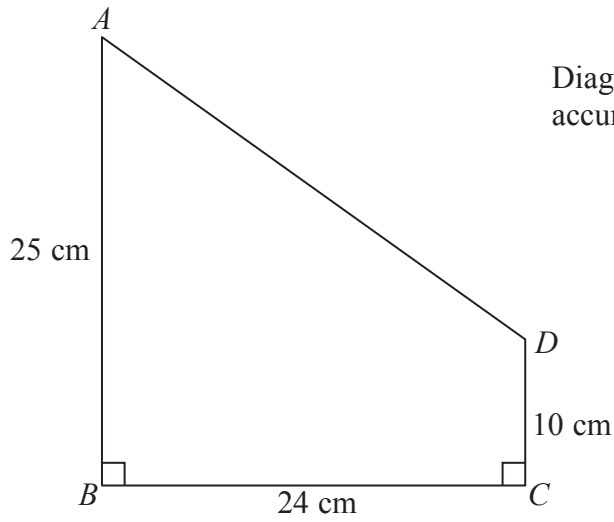


Diagram **NOT**
accurately drawn

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

$x = \dots\dots\dots$

$ABCD$ is a trapezium.



$$AB = 25 \text{ cm.}$$

$$BC = 24 \text{ cm.}$$

$$CD = 10 \text{ cm.}$$

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

Calculate the size of angle CDA .

Give your answer correct to 3 significant figures.

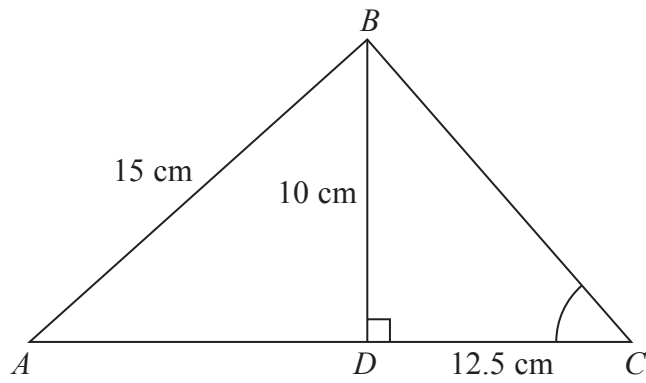


Diagram **NOT**
accurately drawn

ABC is a triangle.
The point D lies on AC .
Angle $BDC = 90^\circ$
 $BD = 10\text{ cm}$, $AB = 15\text{ cm}$ and $DC = 12.5\text{ cm}$.

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

..... cm
(3)

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

.....
(3)

Here is a triangle QRS .

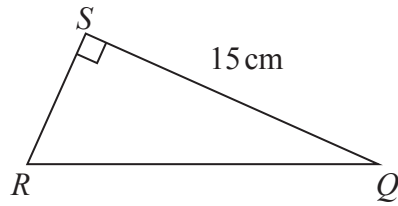


Diagram **NOT**
accurately drawn

$$SQ = 15\text{ cm}$$

$$\text{Angle } RSQ = 90^\circ$$

$$\text{Area of triangle } QRS = 60\text{ cm}^2$$

Work out the size of angle SQR .

Give your answer correct to 1 decimal place.

The diagram shows a circle, centre O .
 PTQ is the tangent to the circle at T .
 $PO = 6$ cm.
 Angle $OPT = 40^\circ$.

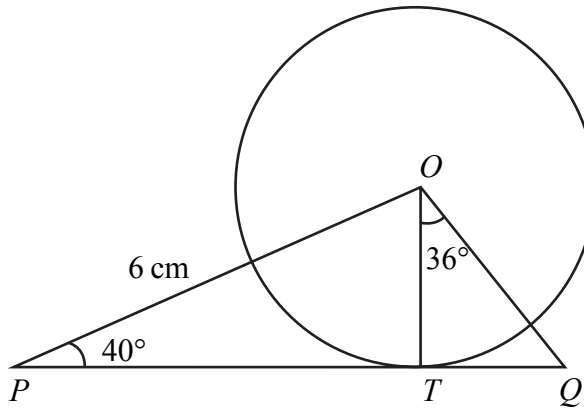


Diagram **NOT**
accurately drawn

(a) Explain why angle $OTP = 90^\circ$.

.....

(1)

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

..... cm
 (3)

(c) Angle $QOT = 36^\circ$.
 Calculate the length of OQ .
 Give your answer correct to 3 significant figures.

..... cm
 (3)

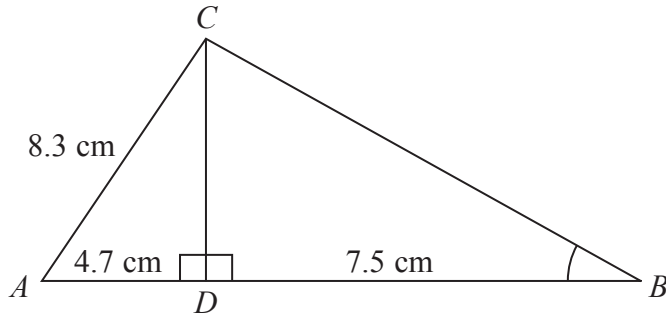


Diagram **NOT**
accurately drawn

The diagram shows triangle ABC .

D is the point on AB , such that CD is perpendicular to AB .

$AC = 8.3$ cm.

$AD = 4.7$ cm.

$BD = 7.5$ cm.

Calculate the size of angle ABC .

Give your answer correct to 1 decimal place.

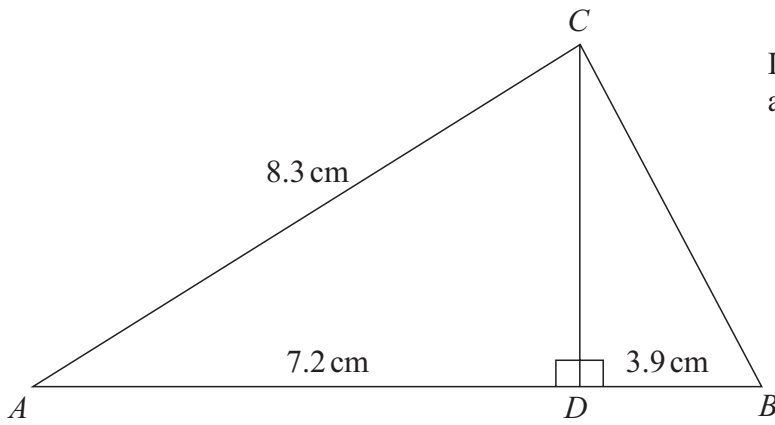


Diagram **NOT**
accurately drawn

ABC is a triangle.

D is a point on AB .

CD is perpendicular to AB .

$AD = 7.2$ cm, $DB = 3.9$ cm, $AC = 8.3$ cm.

Calculate the size of angle DBC .

Give your answer correct to 1 decimal place.

o

.....

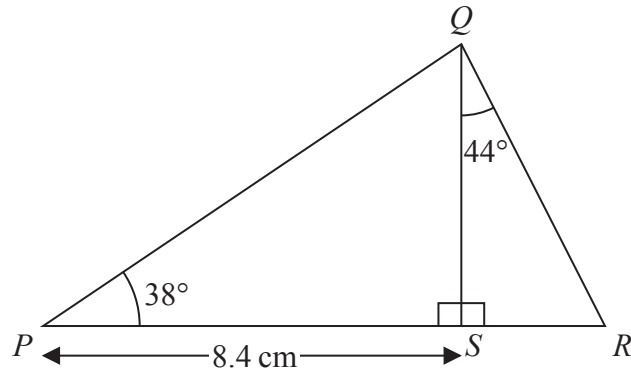


Diagram **NOT**
accurately drawn

PSR is a straight line.

Angle $PSQ = 90^\circ$

$PS = 8.4 \text{ cm}$

Angle $QPS = 38^\circ$

Angle $SQR = 44^\circ$

Work out the length of QR .

Give your answer correct to 3 significant figures.

.....cm

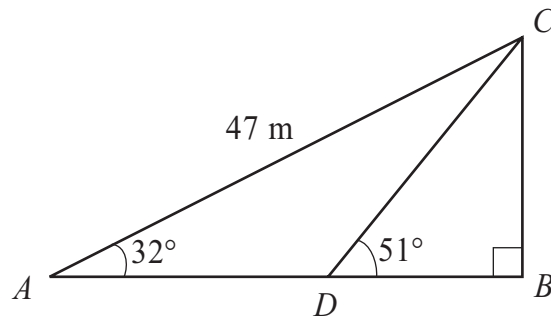


Diagram **NOT**
accurately drawn

Triangle ABC is right-angled at B .

Angle $BAC = 32^\circ$

$AC = 47\text{ m}$.

D is the point on AB such that angle $BDC = 51^\circ$

Calculate the length of BD .

Give your answer correct to 3 significant figures.

..... m

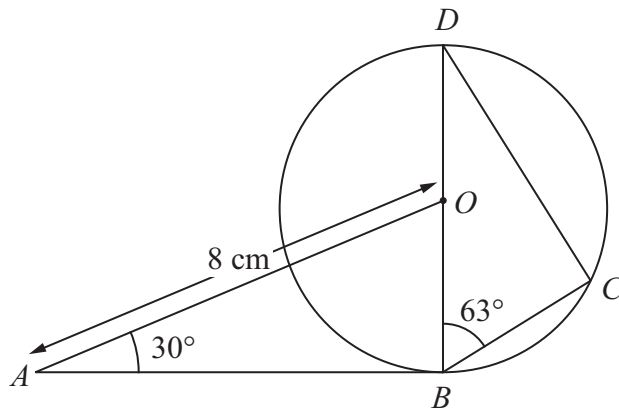


Diagram **NOT**
accurately drawn

B , C and D are points on a circle, centre O .

BOD is a diameter of the circle.

AB is the tangent to the circle at B .

$AO = 8$ cm. Angle $BAO = 30^\circ$ Angle $CBD = 63^\circ$

Calculate the length of BC .

Give your answer correct to 3 significant figures.

..... cm