

Name: _____

Pythagoras and Trigonometry Problem Solving 1

Date:

Time:

Total marks available: 22

Total marks achieved: _____

Questions

Q1.

The diagram shows a regular pentagon $ABCDE$.

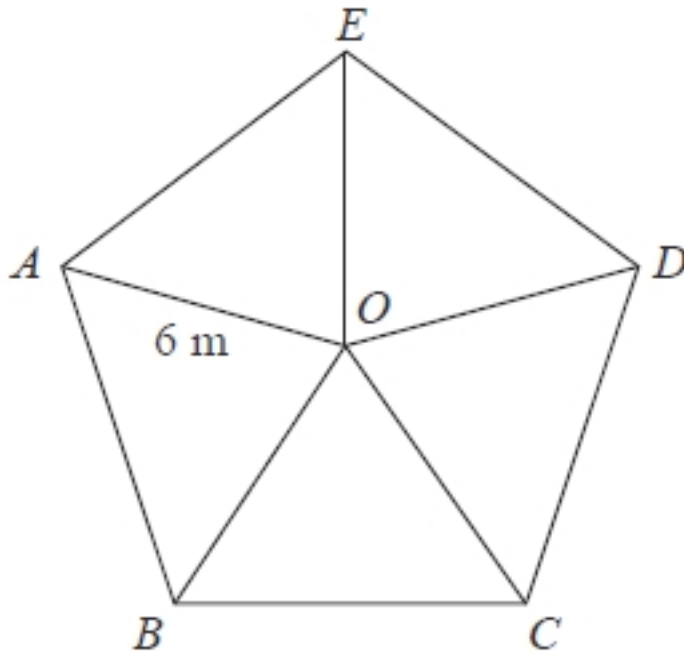


Diagram NOT
accurately drawn

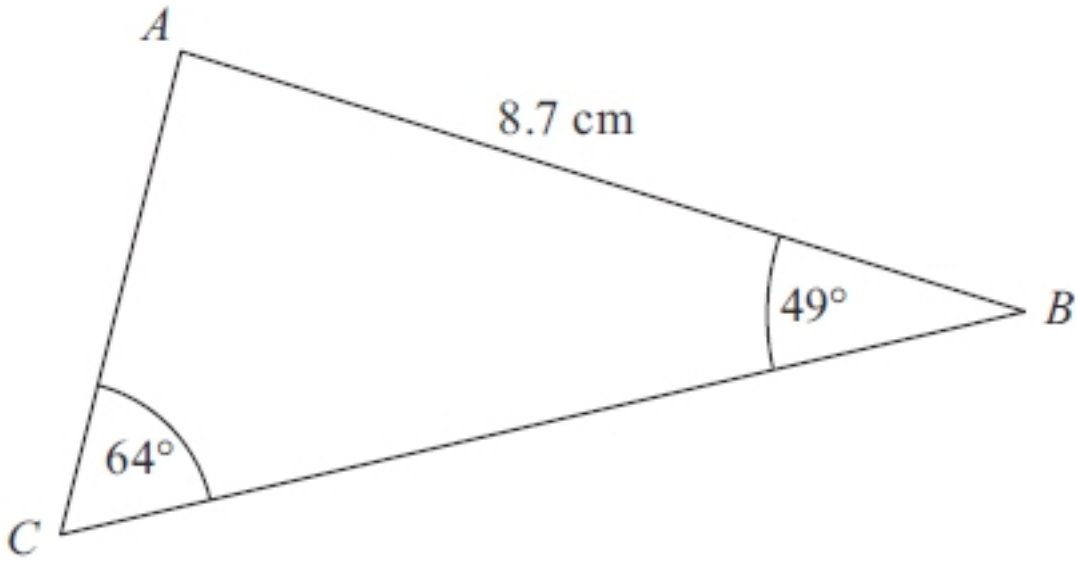
The pentagon is divided into 5 isosceles triangles.
 $OA = OB = OC = OD = OE = 6$ m

Work out the area of the pentagon.
Give your answer correct to 1 decimal place.

..... m²

(Total for question = 4 marks)

Q2.



accurately drawn

Diagram **NOT**

ABC is a triangle.

$AB = 8.7$ cm.

Angle $ABC = 49^\circ$.

Angle $ACB = 64^\circ$.

Calculate the area of triangle ABC .

Give your answer correct to 3 significant figures.

..... cm²

(Total for Question is 5 marks)

Q3.

* The diagram shows a triangle DEF inside a rectangle $ABCD$.

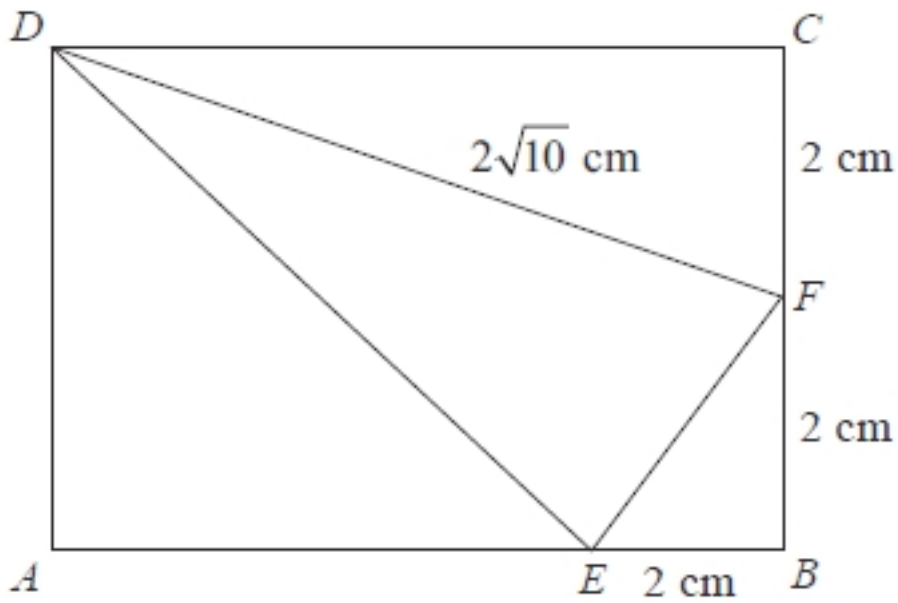


Diagram **NOT**
accurately drawn

Show that the area of triangle DEF is 8 cm^2 .
You must show all your working.

(Total for question = 4 marks)

Q4.

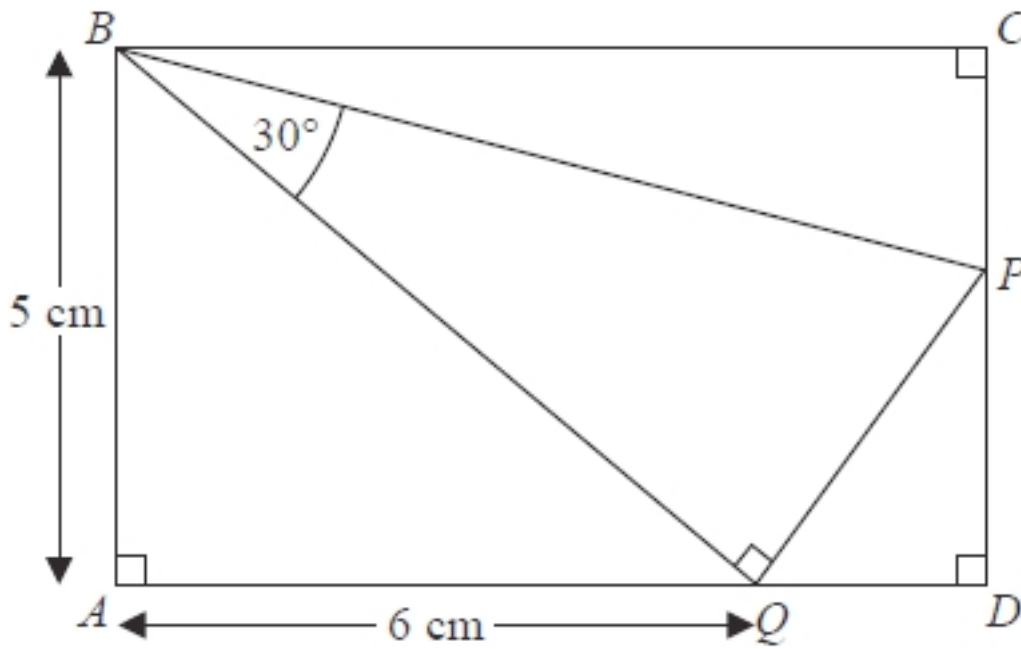


Diagram NOT accurately drawn

In the diagram,

- ABCD* is a rectangle
- P* lies on the line *CD*
- Q* lies on the line *AD*
- PQB* is a right-angled triangle

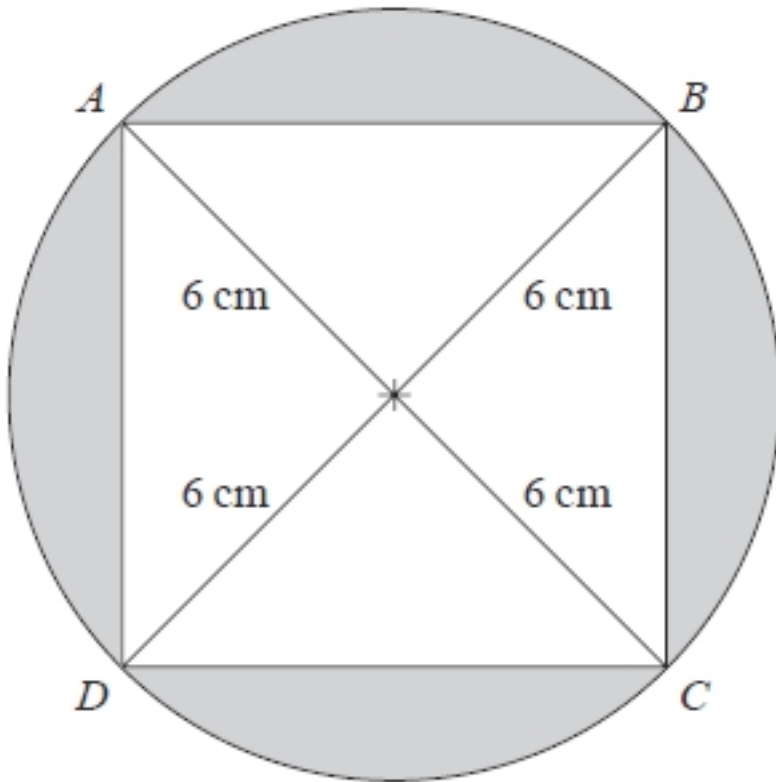
Work out the length of *BC*.
Give your answer correct to 3 significant figures.
You must show your working.

.....cm

(Total for question = 5 marks)

Q5.

The diagram shows a square $ABCD$ inside a circle.



**Diagram NOT
accurately drawn**

The points A , B , C and D lie on the circle.

The radius of the circle is 6 cm.

Work out the total area of the shaded regions.
Give your answer correct to 3 significant figures.

..... cm^2

(Total for question = 4 marks)