

Circle Theorems

Question Paper

Level	OCR
Subject	Maths
Exam Board	GCSE (9-1)
Topic	Basic Geometry
Sub Topic	Circle Theorems
Grade Level	Grade 6
Booklet	Question Paper

Time Allowed: 39 minutes

Score: /32

Percentage: /100

- 1 Complete this multiplication grid by filling in the shaded squares.

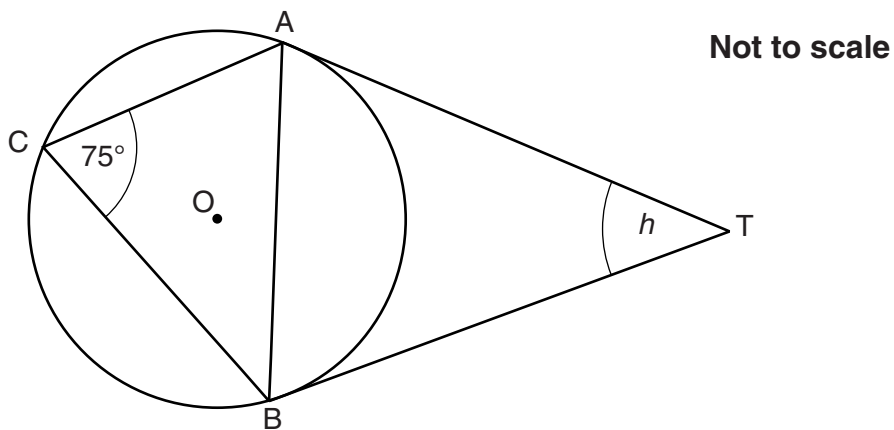
\times	$\frac{1}{6}$	
$\frac{1}{5}$		1
	$\frac{1}{16}$	

[4]

- 2 AT and BT are tangents to the circle, centre O.
C is a point on the circle such that angle $ACB = 75^\circ$.

Work out angle h .

Give a reason for each step of your working.



_____ ° [5]

3 (a) Simplify $\sqrt{80}$.

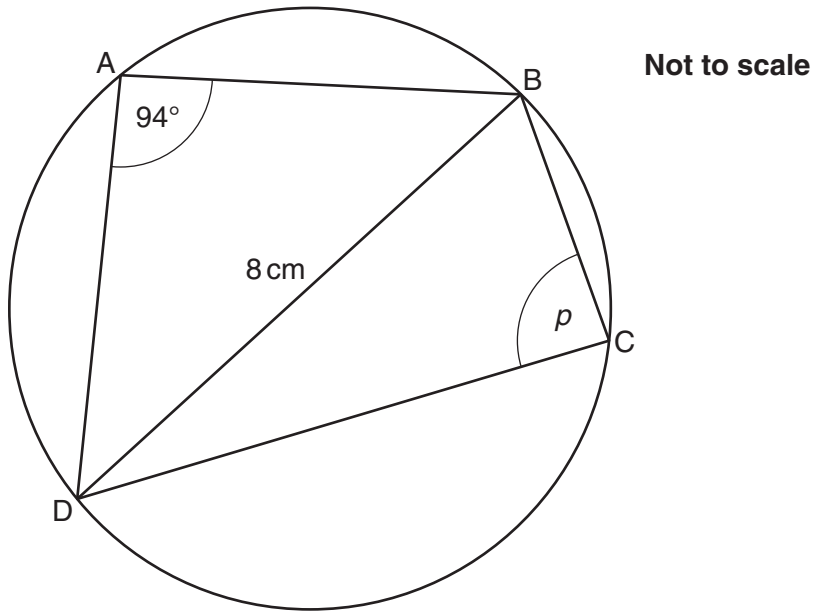
Give your answer in the form $a\sqrt{b}$, where a and b are integers and b is as small as possible.

(a) _____ [2]

(b) Rationalise the denominator and simplify $\frac{12}{\sqrt{3}}$.

(b) _____ [3]

4 A, B, C and D are points on a circle.



(a) Work out angle p . Give a reason for your answer.

$p =$ _____ $^{\circ}$ because _____
 _____ [2]

(b)* Is the diameter of the circle less than 8 cm, more than 8 cm or equal to 8 cm? Justify your answer.

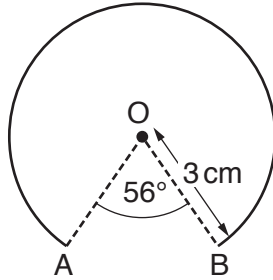
 _____ [3]

5 A bracelet is made from a length of gold wire, bent to form an arc of a circle.

O is the centre of this circle.

Radii OA and OB are 3 cm.

Angle AOB is 56° .

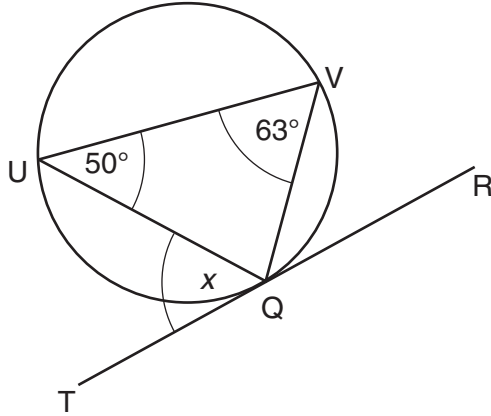


Not to scale

Calculate the length of gold wire used to form the bracelet.

..... cm [3]

- 6 TQR is a tangent to the circle.
Q, V and U are points on the circle.
Angle QVU = 63° and angle QUV = 50° .



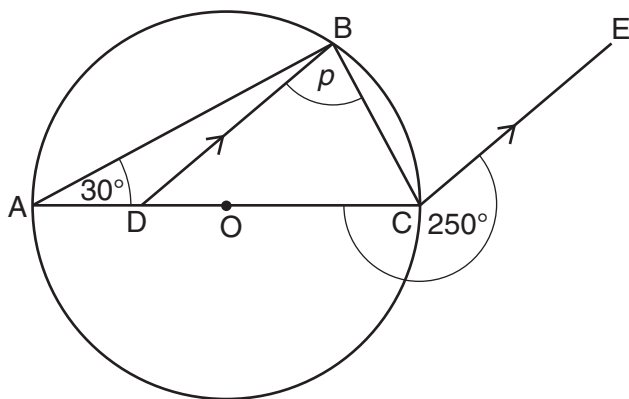
Not to scale

What is the size of angle x ?
Give a reason for your answer.

$x =$ _____ $^\circ$ because _____

_____ [2]

- 7 ADOC is the diameter of the circle, centre O.
B is a point on the circle and DB is parallel to CE.

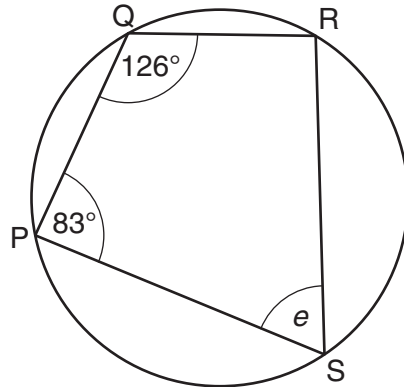


Not to scale

Work out angle p .
Give a reason for each stage of your working.

_____ ° [5]

- 8 (a) P, Q, R and S are points on the circumference of a circle.



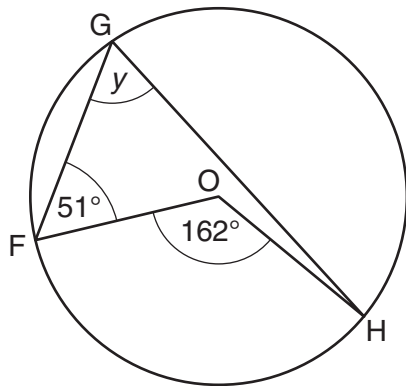
Not to scale

Work out the size of angle e .
Give a reason for your answer.

$e =$ _____ $^{\circ}$ because _____

_____ [2]

- (b) F, G and H are points on a circle, centre O.



Not to scale

Work out the size of angle y .

(b) _____ $^{\circ}$ [1]