

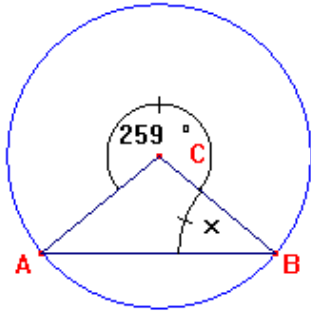
Circle and Tangent Theorems Test **Maths Form 4**

Name: _____

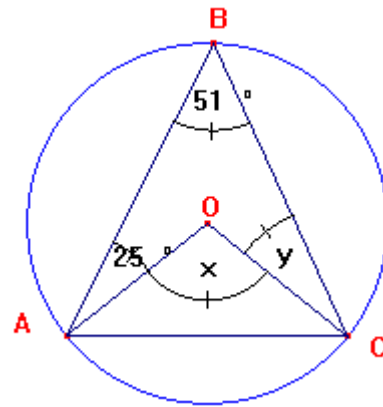
Class: _____

1. Work out the value of the angles marked in letters. Give reasons for all your answers.

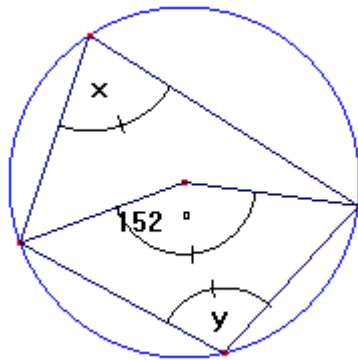
a.



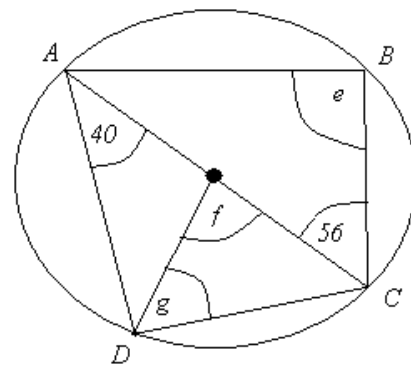
b.



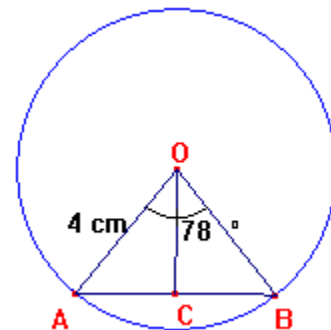
c.



d.

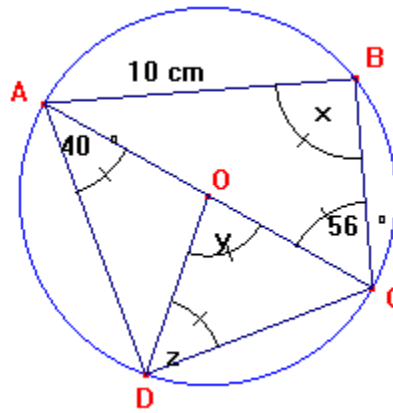


2. Find, correct to 3 s.f., the length of OC. Give a reason for each step in your calculation.

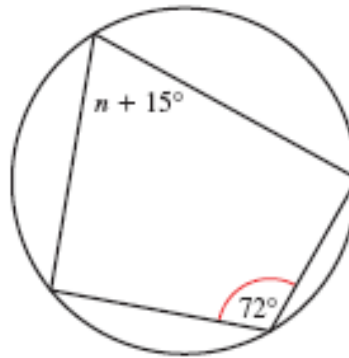


3. The circle shown has centre O.

- a) Find all the angles marked with a letter and give reasons for all your answers.
- b) Find, correct to 3 s.f., the length of side AC.

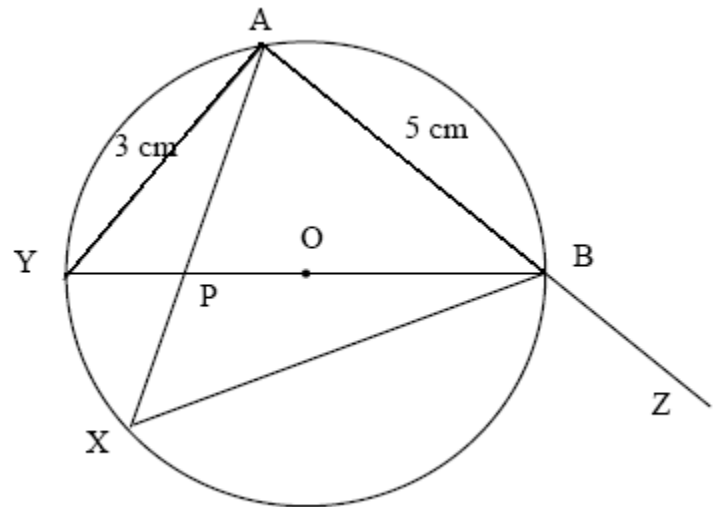


4. Find the value of n.



5. The circle shown has centre O.

- a) State the value of $\angle BAY$, giving a reason for your answer.
- b) Work out the length of BY and hence the length of the radius of the circle.

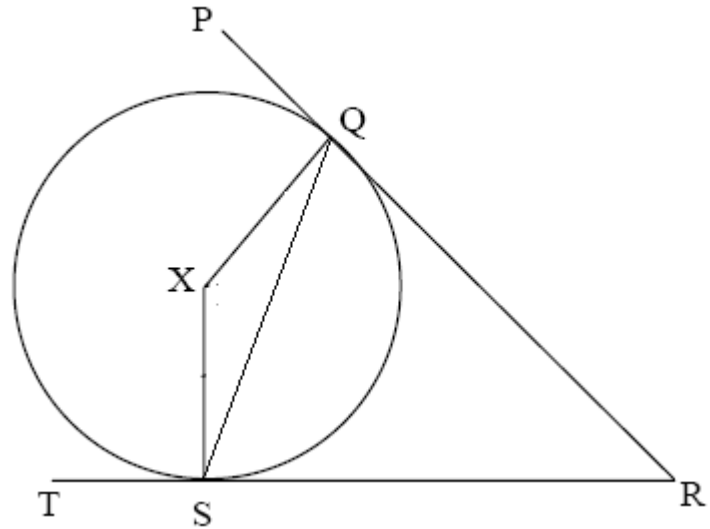


6. PQR and TSR are two tangents to a circle centre X. $\angle SXQ = 144^\circ$. Work out the size of:

$\angle XSQ$

$\angle SQR$

$\angle QRS$



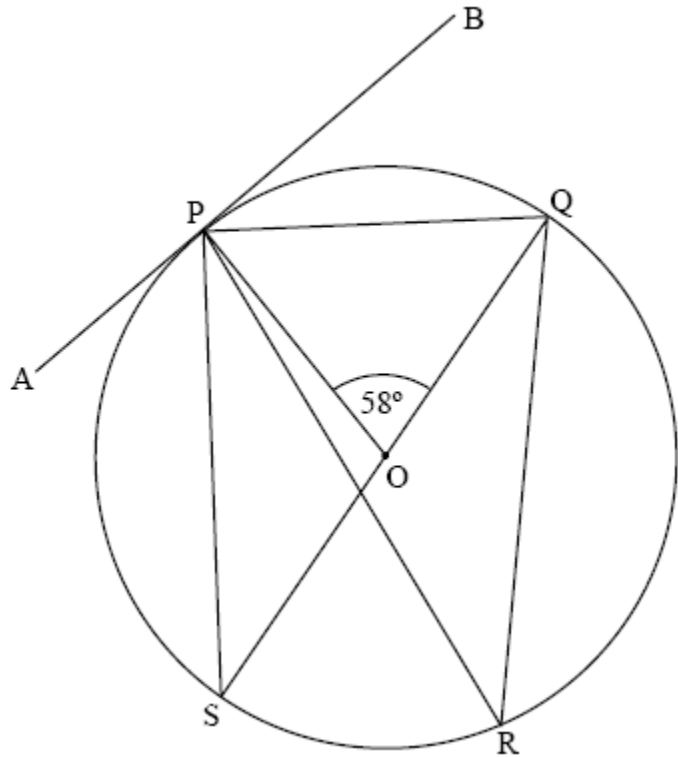
7. P, Q, R and S are four points on the circumference of a circle centre O. SQ is a straight line passing through the centre of the circle. APB is a tangent to the circle at P. $\angle POQ = 58^\circ$. Find each of the following angles:

$\angle PRQ$

$\angle QPS$

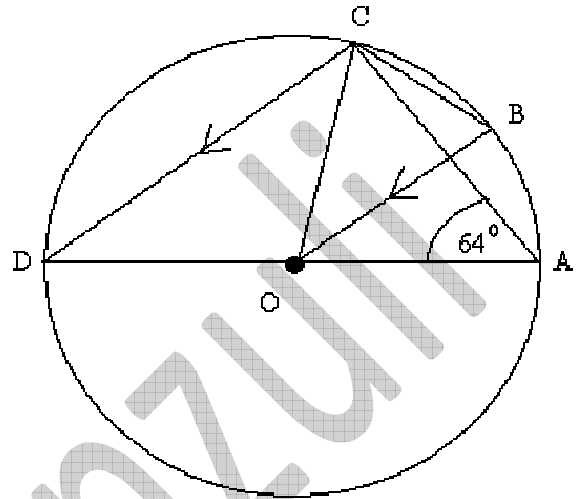
$\angle PQS$

$\angle BPQ$



8. AD is the diameter and centre is at O. B and C are points of the circumference such that DC is parallel to OB. Calculate the value, giving full reasons, of:

- $\angle ODC$
- $\angle AOB$
- $\angle ACB$
- $\angle OBC$



9. A, B, C and T are points on the circumference of a circle.
 Angle BAC = 25
 The line PTS is the tangent at T to the circle.
 AT = AP.
 AB is parallel to TC.
- Calculate the size of angle APT. Give reasons for your answer.
 - Calculate the size of angle BTS. Give reasons for your answer.

