JustMaths

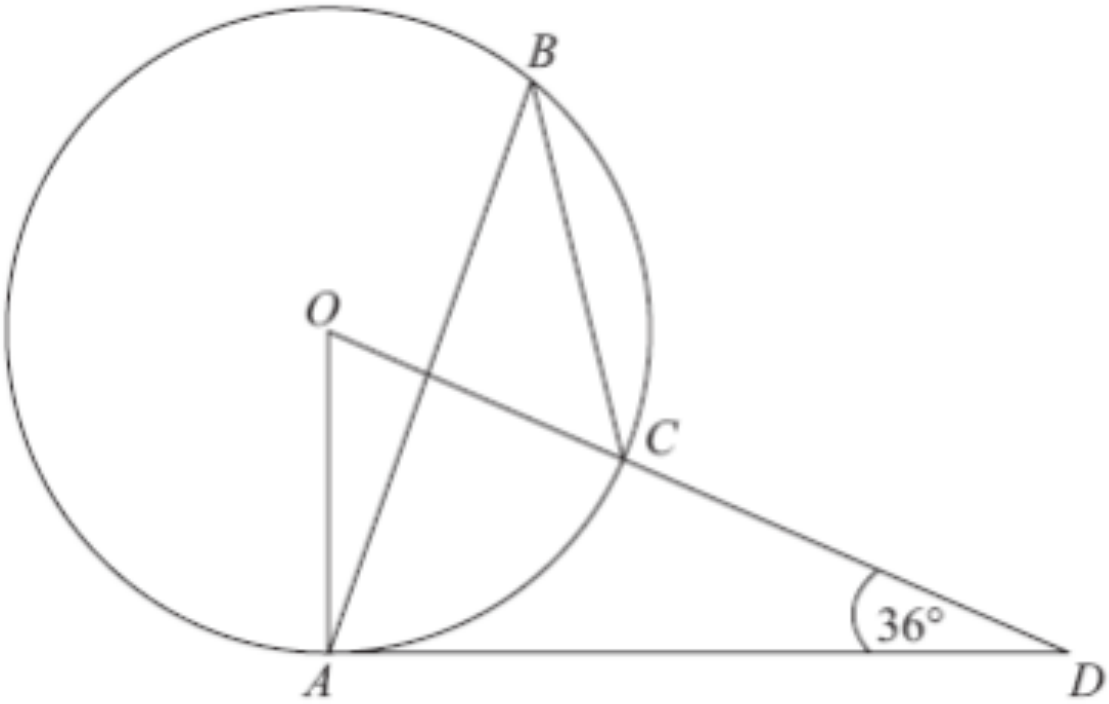
# CIRCLE THEOREMS

Name: _____

Total Marks: _____

| Q. | Max | Actual | RAG |
|---|---|---|---|
| 1 | 4 | | |
| 2 | 4 | | |
| 3 | 4 | | |
| 4 | 4 | | |
| 5 | 4 | | |
| 6 | 4 | | |
| 7 | 2 | | |
| 8 | 5 | | |
| 9 | 4 | | |

Q1.




The diagram shows a circle centre *O*. *A*, *B* and *C* are points on the circumference.

*DCO* is a straight line. *DA* is a tangent to the circle.

Angle *ADO* = 36°

(a) Work out the size of angle *AOD*.

.....°

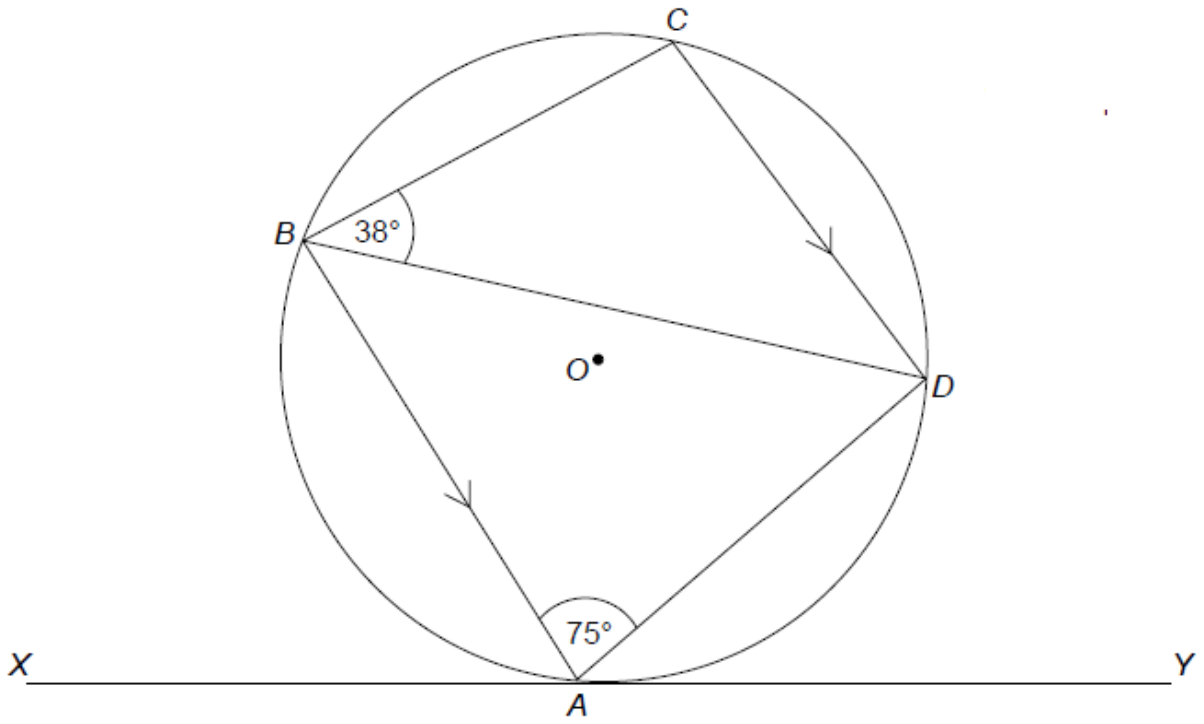
(b) Work out the size of angle *ABC*.

.....°

Give reasons for your answers.

(5 Marks)

Q2.




*ABCD* is a cyclic quadrilateral within a circle centre *O*. *XY* is the tangent to the circle at *A*. *CD* is parallel to *AB*.

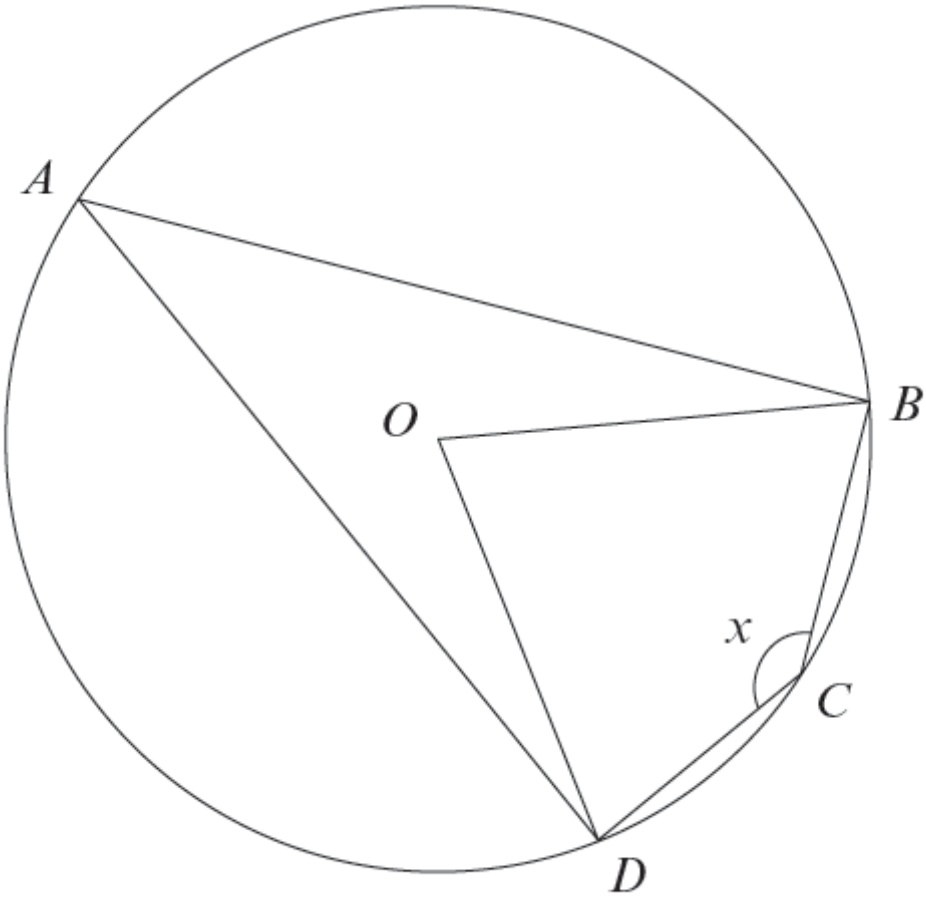
Angles *BAD* is $75^{o}$ and angle *CBD* is $38^{o}$

a) Give a reason why angle *BCD* = $105^{0}$

b) Work out the value of angle *BAX*. Give reasons for your answer.

(4 Marks)

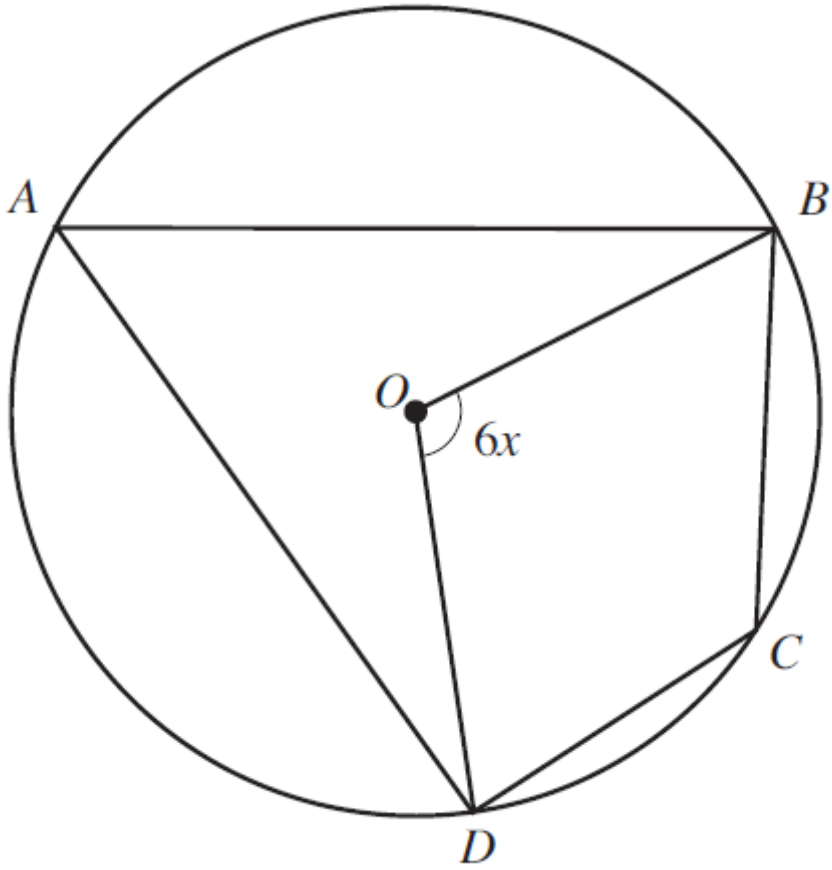
Q3.




The points *A, B, C* and *D* lie on the circumference of the circle with centre *O.* Angle *BCD* = *x*, where *x* is measured in degrees. Show giving reasons in your answer, that the size of angle *DOB* in degrees is 360 – 2*x*. .

(4 Marks)

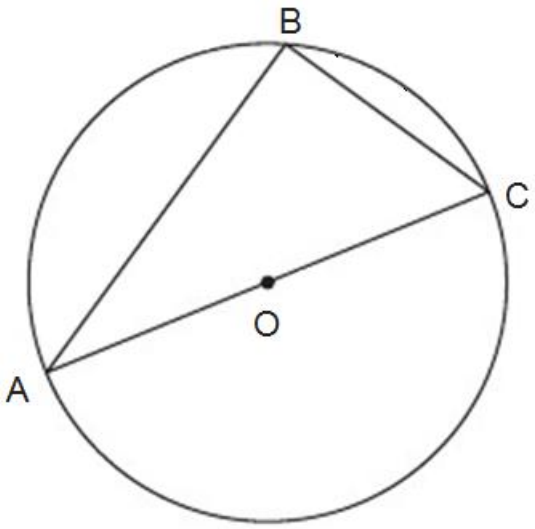
Q4.




The points *A, B, C* and *D* lie on the circumference of the circle with centre *O.* Angle *BOD* = 6*x*, Find the size of angle BCD in terms of *x*.

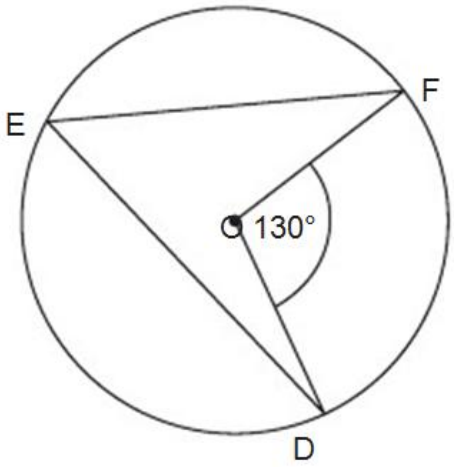
(4 Marks)

Q5.




A, B and C are points on the circumference of a circle, centre O. AC is a diameter of the circle.

a) Write down the size of angle ABC. Give a reason from your answer

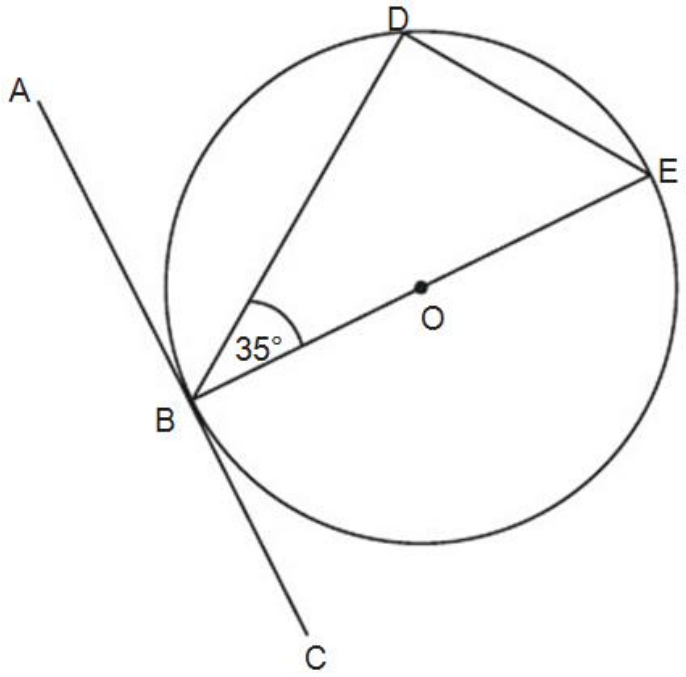



D, E and F are points on the circumference of a circle, centre O. Angle DOF = 130°

b) Work out the size of angle DEF. Give a reason for your answer.

(4 Marks)

Q6.



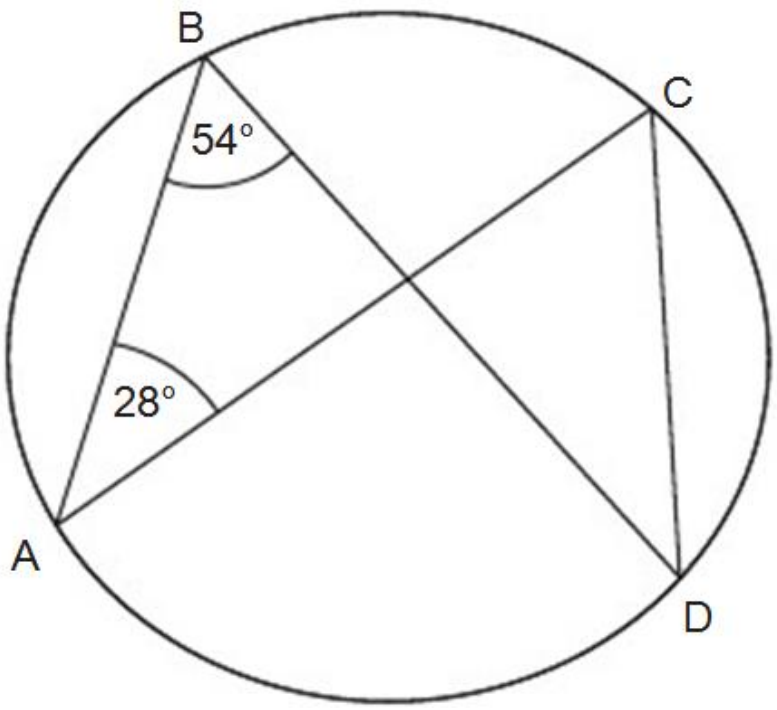

B, D and E are points on the circumference of a circle, centre O. ABC is a tangent to the circle. BE is a diameter of the circle. Angle DBE is 35°

a) Find the size of angle ABD. Give a reason from your answer

b) Work out the size of angle DEB. Give a reason for your answer.

(4 Marks)

Q7.



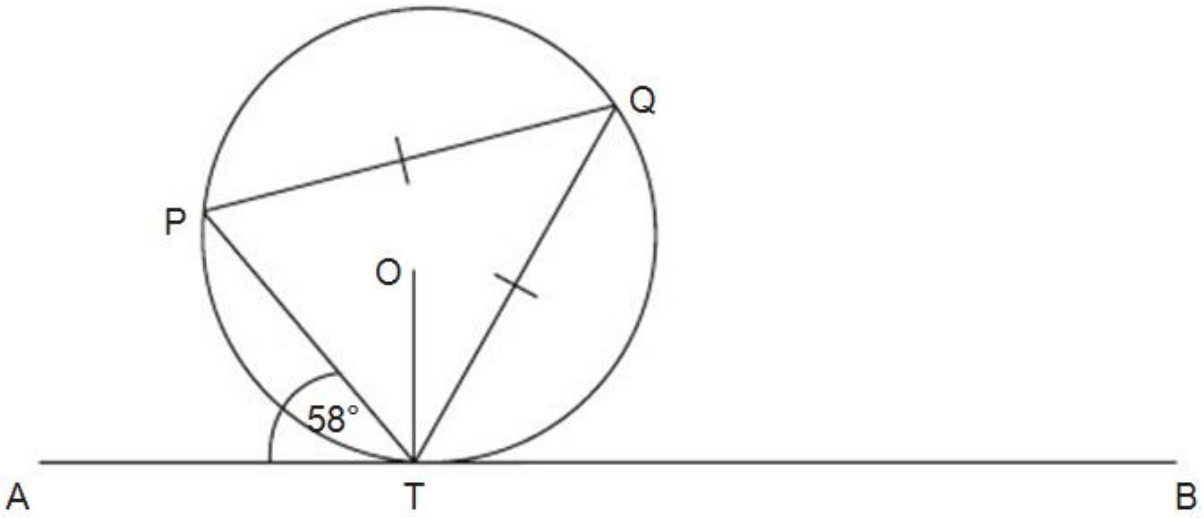

A, B, C and D are points on the circumference of a circle. Angle ABD = 54° and angle BAC = 28°

a) Find the size of angle ACD.

b) Give a reason for your answer

(2 Marks)

Q8.



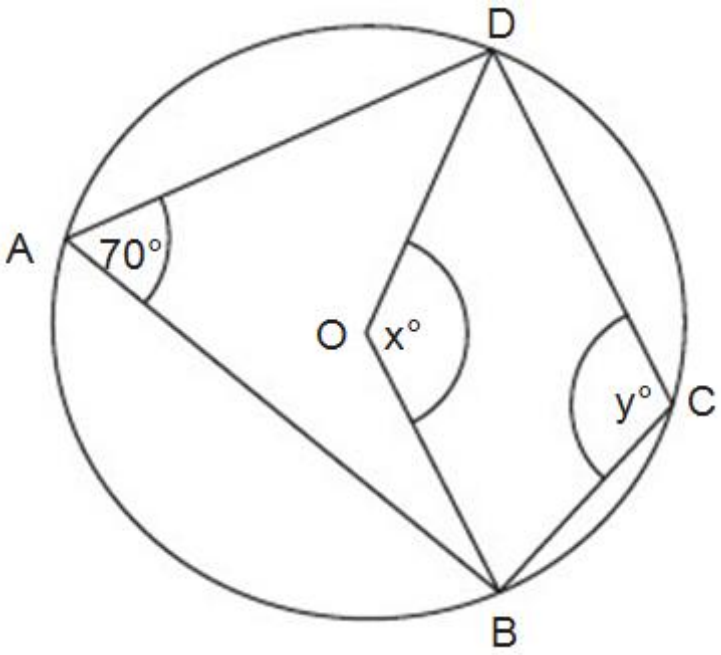

P, Q and T are points on the circumference of a circle, centre O. The line ATB is the tangent at T to the circle.

PQ = TQ and angle ATP = 58°

Calculate the size of angle OTQ. Give a reason for each stage of your working.

(5 Marks)

Q9.




In the diagram A, B, C and D are points on the circumference of a circle, centre O.

Angle BAD = 70°

Angle BOD = x°

Angle BCD = y°

a) Work out the value of x. Give a reason for your answer.

b) Work out the value of y. Give a reason for your answer.

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(4 Marks)