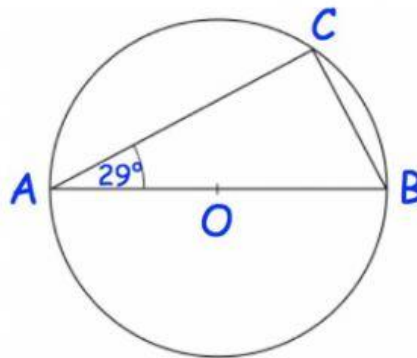# CIRCLE THEOREMS

Answer the question. Show your working.

1. (a) In the diagram below, O is the centre of the circle and A, B and C are points on the circumference.
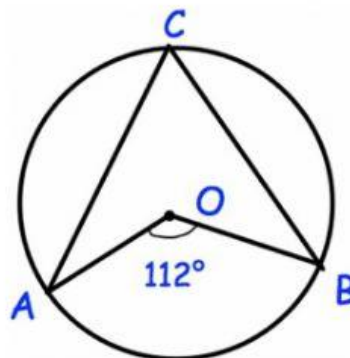

Angle A = 29°

Work out the size of angle B.

.............................°
(1)

(b) A, B and C are three points on the circumference of another circle. O is the centre of the circle.
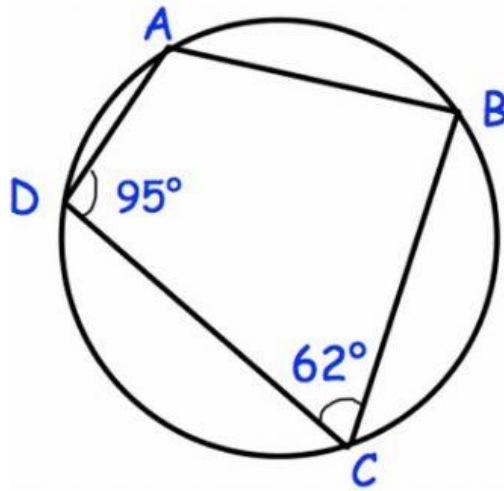

Angle AOB = 112°

Work out the size of angle ACB.   ....°
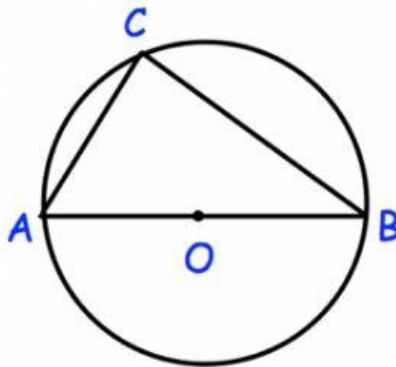(1)

2.   A, B, C and D are points on the circumference on a circle.

(a) Find the size of angle DAB.

................................°
(1)

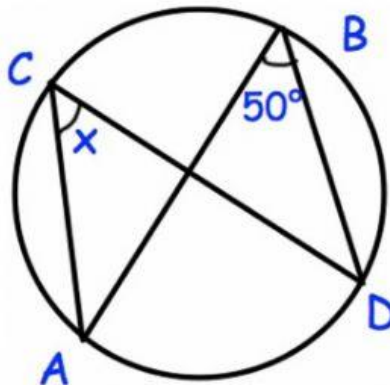(b) Find the size of angle ABC.

................................°
(1)

3. A circle with centre O, has points A, B and C on the circumference.
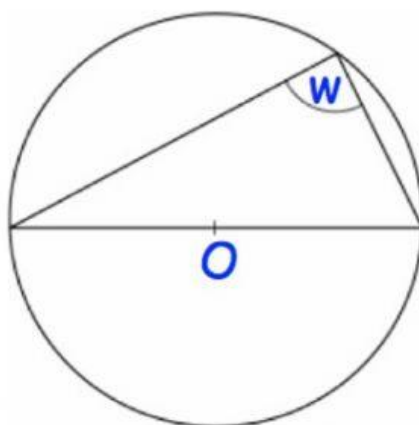   Angle ABC = 20°

    Find the size of angle BAC.

    ....°
                          (1)

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

    Find x, the size of angle ACD.

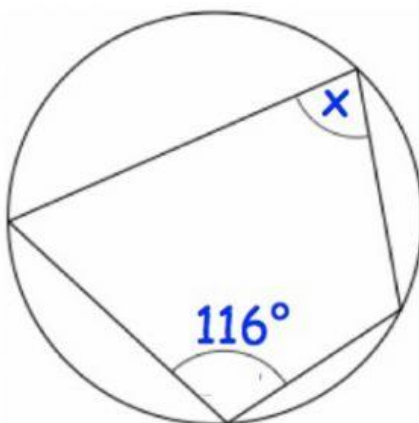   ....°
                          (1)

5. (a) In the diagram, O is the centre of the circle.

Write down the value of w.

.........................°

(1)

(b)

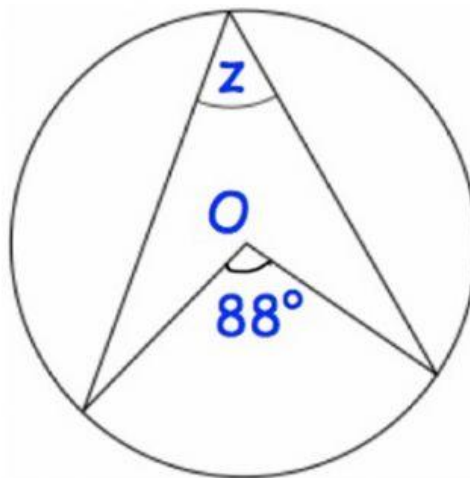Write down the value of x.

.........................°

(1)

(c)

Write down the value of y.

..........................°
(1)

(d) In the diagram, O is the centre of the circle.

Write down the value of z.
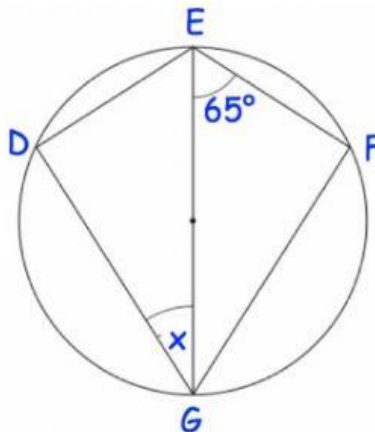
..........................°
(1)

6. P, Q, R and S are four points on the circumference of a circle.
   PR meets QS at A.
   Angle PRS = 57° and Angle PAQ = 78°

   Work out the value of angle y.
   Include your method.
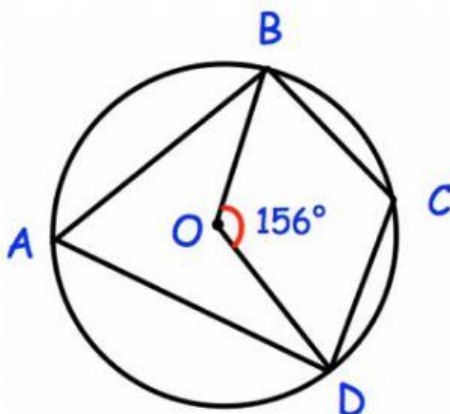
   ....°

   (3)

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7. The diagram shows points D, E, F and G on the circumference of a circle.
   EG is a diameter.
   DEFG is a kite.

   Work out the value of x.

   ....°

   (2)
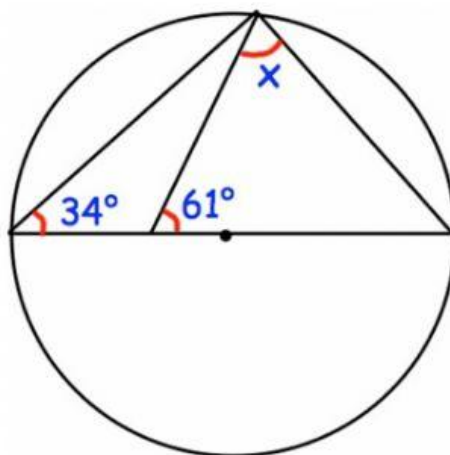
8. A, B, C and D are points on the circumference of a circle with centre O.

Work out the size of angle BCD.
You must show your workings.

..........................°

(4)

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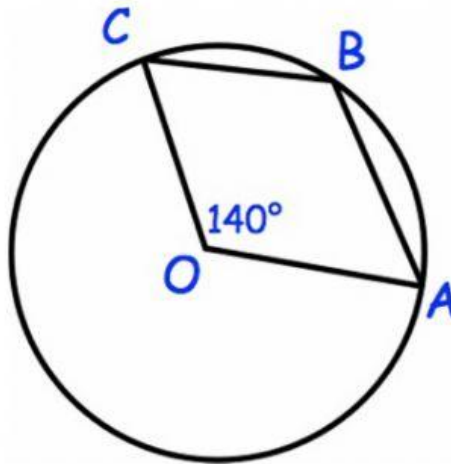9. AB is the diameter of a circle.

Work out the value of x.

..........................°

(3)

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

Angle AOC is 140°
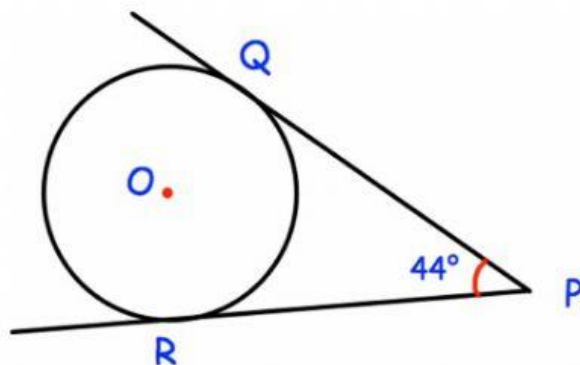

Explain why angle ABC is 110°

....

....

....

....

(2)
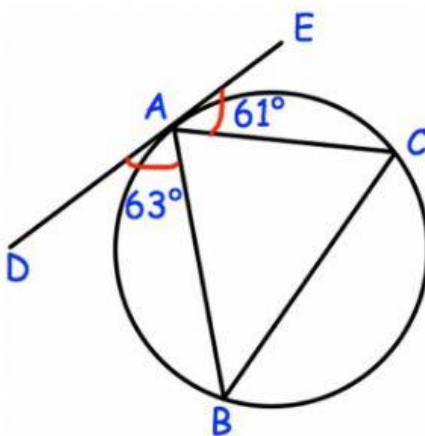
11. Q and R are points on a circle, centre O.
PQ and PR are tangents to the circle.

Work out the size of angle POR.

............................°
(3)

12.12.

DAE is a tangent to a circle.
Write down the size of angle ABC.

............................°
(1)