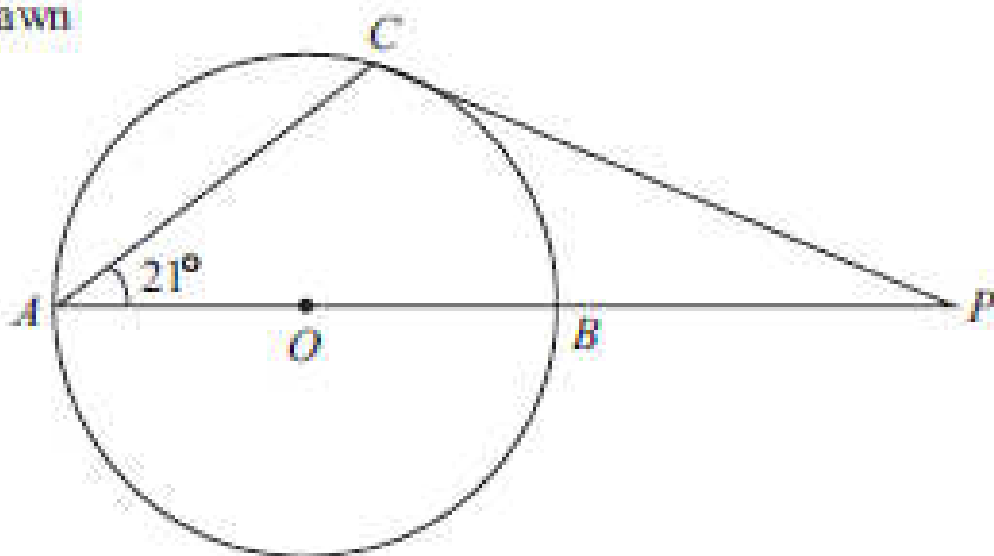


Diagram **NOT**
accurately drawn



A, *B* and *C* are points on a circle, centre *O*.

AB is a diameter of the circle.

PC is a tangent to the circle.

ABP is a straight line.

Angle *BAC* = 21° .

Work out the size of angle *APC*.

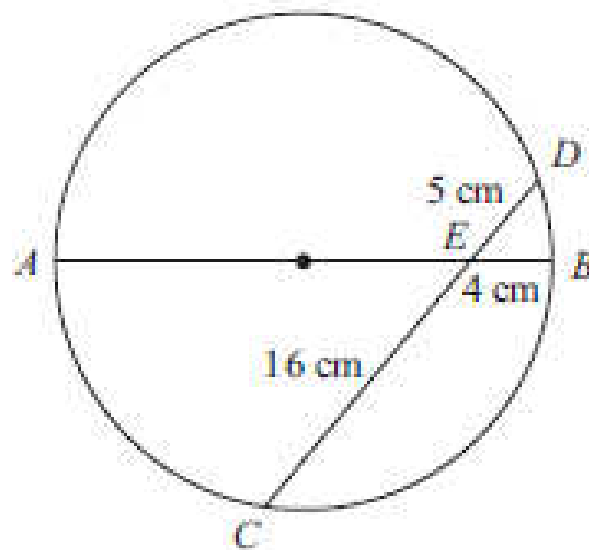


Diagram **NOT** accurately drawn

AB is a diameter of a circle.
 CD is a chord of the circle.
 AB and CD intersect at E .
 $BE = 4\text{ cm}$, $CE = 16\text{ cm}$ and $DE = 5\text{ cm}$.

- (a) Calculate the length of AE .
- (b) (i) Find the radius of the circle.
- (ii) Calculate the size of angle AED .
 Give your answer correct to 1 decimal place.

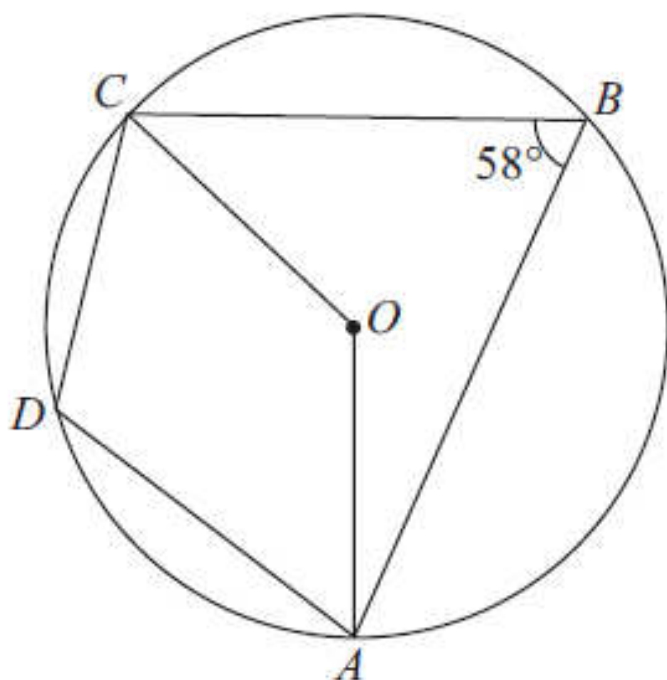


Diagram NOT
accurately drawn

A , B , C and D are points on a circle, centre O .
Angle $ABC = 58^\circ$.

(a) (i) Calculate the size of angle AOC .

(ii) Give a reason for your answer.

(b) (i) Calculate the size of angle ADC .

(ii) Give a reason for your answer.

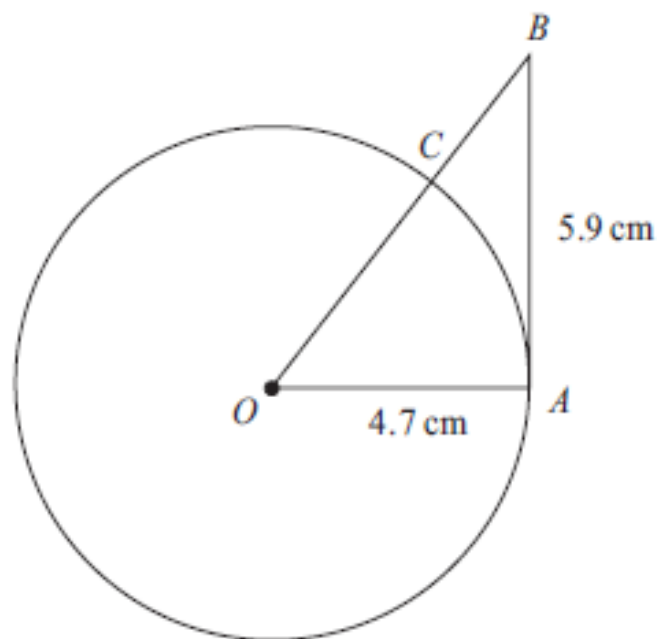


Diagram NOT
accurately drawn

A is a point on a circle with centre O and radius 4.7 cm.

AB is the tangent to the circle at A .

$AB = 5.9$ cm.

OB intersects the circle at C .

Calculate the length of BC .

Give your answer correct to 3 significant figures.

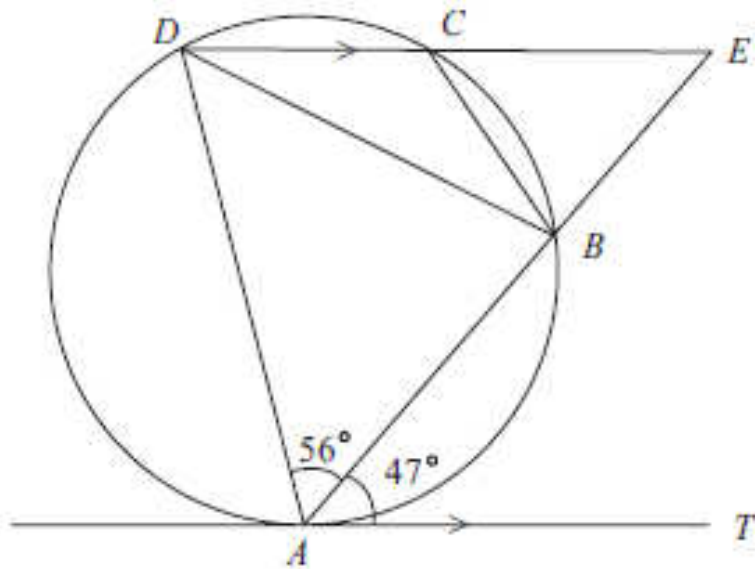


Diagram NOT
accurately drawn

A , B , C and D are points on a circle.
 ABE and DCE are straight lines.
 AT is a tangent to the circle.
 DCE is parallel to AT .
 Angle $EAT = 47^\circ$. Angle $BAD = 56^\circ$.

- (a) (i) Find the size of angle AED .
- (ii) Give a reason for your answer.
- (b) Find the size of angle BCD .
- (c) (i) Find the size of angle ADB .
- (ii) Give a reason for your answer.

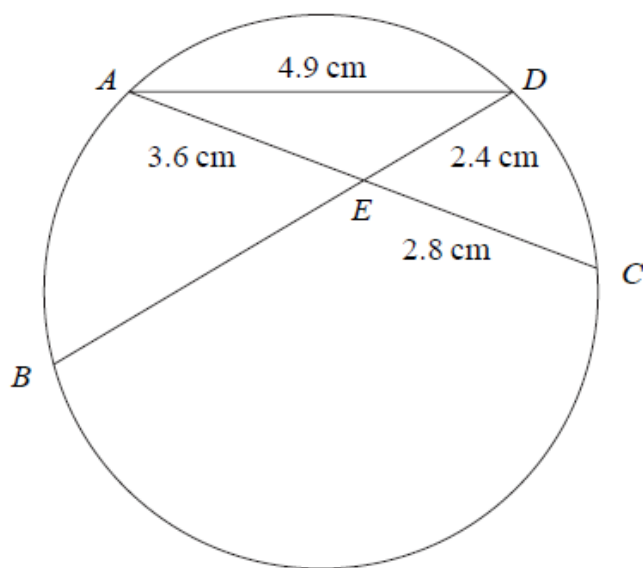


Diagram **NOT**
accurately drawn

A, *B*, *C* and *D* are four points on the circumference of a circle.
The chords *AC* and *BD* intersect at *E*.
 $AE = 3.6$ cm, $CE = 2.8$ cm, $DE = 2.4$ cm and $AD = 4.9$ cm.

- (a) Calculate the length of *BE*.
- (b) Calculate the size of angle *AED*.
Give your answer correct to 3 significant figures.

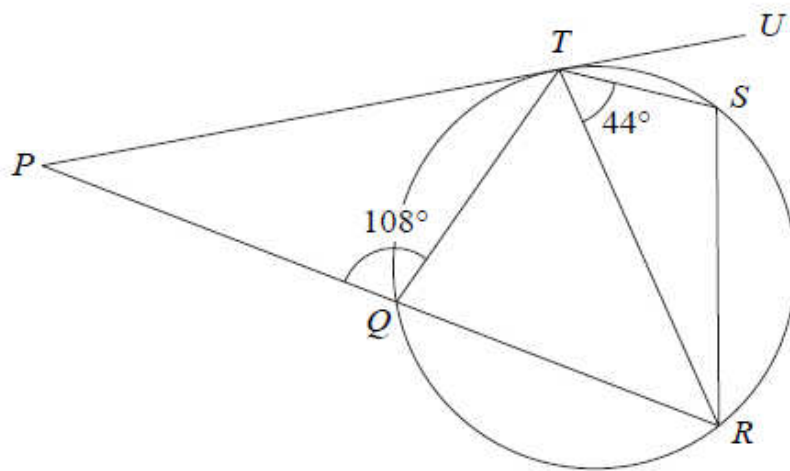


Diagram **NOT**
accurately drawn

Q , R , S and T are points on the circumference of a circle.

PU is a tangent to the circle at T .

PQR is a straight line.

Angle $PQT = 108^\circ$.

Angle $STR = 44^\circ$.

Work out the size of angle STU .

You must give a reason for each step in your working.