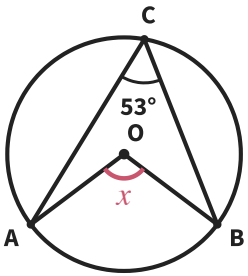
# Circle theorems: the angle at the centre

**1**

O is the centre of the circle.
Find angle AOB, marked $x$.

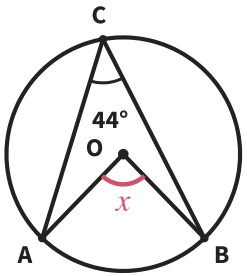



[ ] = 2 × [53]
angle at centre — angle at circumference

$x$ = _____

**2**

O is the centre of the circle.
Find angle AOB, marked $x$.

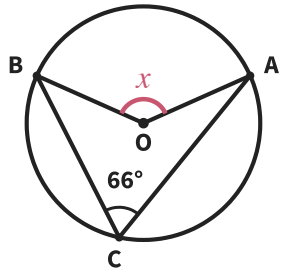



[ ] = 2 × [ ]
angle at centre — angle at circumference

$x$ = _____

**3**

O is the centre of the circle.
Find angle AOB, marked $x$.

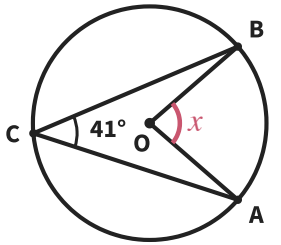



[ ] = 2 × [ ]
angle at centre — angle at circumference

$x$ = _____

**4**

O is the centre of the circle.
Find angle AOB, marked $x$.

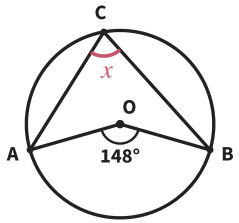



[ ] = 2 × [ ]
angle at centre — angle at circumference

$x$ = _____

**5** *Notice the change!*

O is the centre of the circle.
Find angle ACB, marked $x$.




[148] = 2 × [ ]
angle at centre — angle at circumference

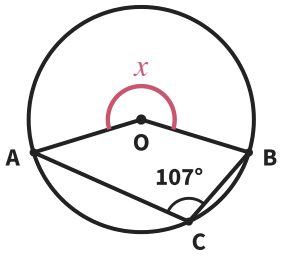
_____

_____

$x$ = _____

**6**

O is the centre. Find the reflex angle AOB, marked $x$. Give a reason.




_____

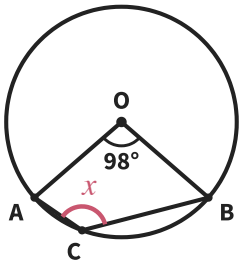
_____

_____

$x$ = _____

**7**

O is the centre of the circle.
Find angle ACB, marked $x$.
Give your reasons.



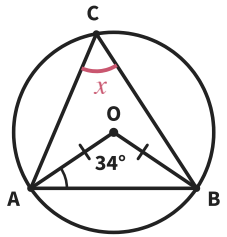

reflex angle AOB = 360° − 98° = [ ]

_____

$x$ = _____

**8**

O is the centre of the circle.
Find angle ACB, marked $x$. Give a reason for each step.




_____

_____

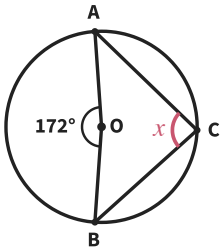
_____

$x$ = _____

# Circle theorems: the angle at the centre *further practice*

**9**

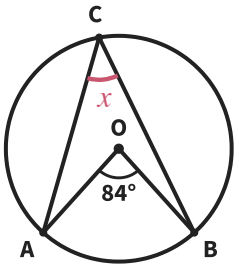
O is the centre of the circle.
Find angle ACB, marked $x$. Give a reason.




$x$ = _____

**10**

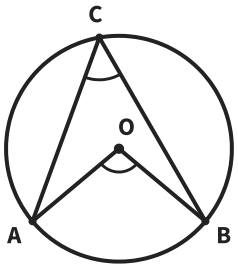
Ravi says $x = 2 \times 84° = 168°$.
Explain his mistake, then find $x$.




$x$ = _____

**11**

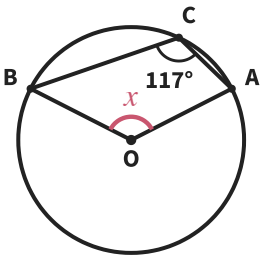
O is the centre. Angle AOB = $(3x + 10)°$ and angle ACB = $(x + 20)°$. Find the value of $x$.




$x$ = _____

**12**

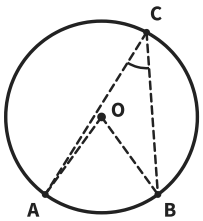
O is the centre.
Find angle AOB, marked $x$.




$x$ = _____

**13**

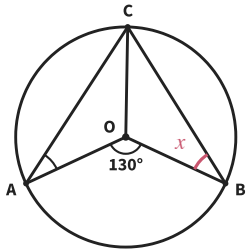
A round garden has a fountain at its centre O. Lamps A, B and C stand on the edge. From lamp C, the angle between lamps A and B is 36°.
Find the angle between A and B seen from the fountain.




**Answer** _____

**14**

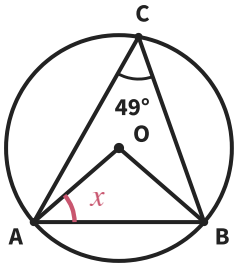
O is the centre. Angle AOB = 130° and angle OAC = 32°.
Find angle OBC, marked $x$.




$x$ = _____

**15**

O is the centre of the circle.
Find angle OAB, marked $x$.
Give your reasons.




$x$ = _____

**16**

O is the centre and O is inside triangle ABC. Explain why angle OAB + angle ACB is always 90°.

