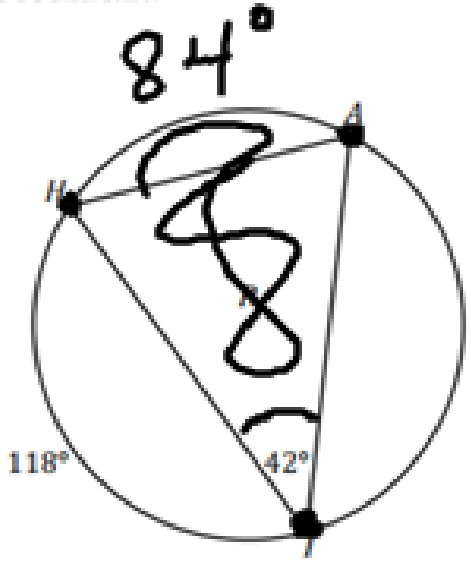
Informal Assessment:



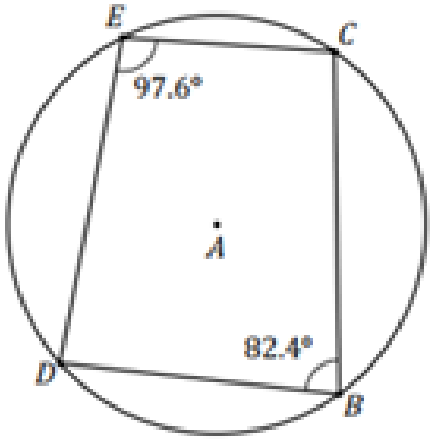
$118 + 84 = 202$

$360 - 202 = 158$

Which of the following is the measure of $\overset{\frown}{AI}$?

Ⓐ 118°
● 158°
Ⓒ 160°
Ⓓ 202°

Consider the figure below that represents an inscribed polygon.



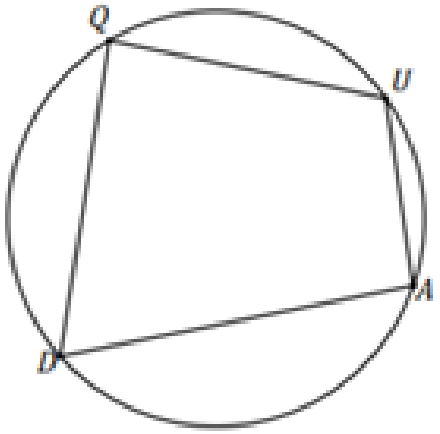
What figure is inscribed in the circle? Quadrilateral

What do you notice about the angles? Supplementary

A polygon is inscribed in a circle when all vertices of the polygon lie on the circle. The circle is circumscribed about the polygon.

In an Inscribed Quadrilateral every vertex is on the circumference of a circle, and the opposite angles of the quadrilateral are Supplementary.

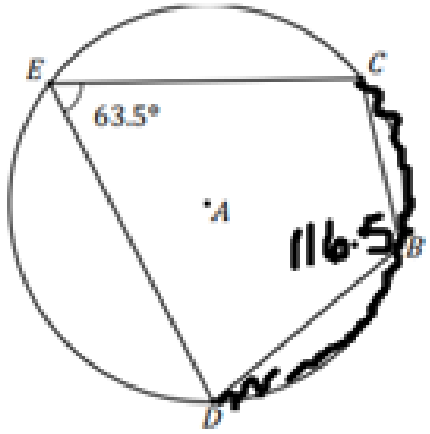
Which pair of angles are supplementary?



$\angle Q + \angle A = 180$

$\angle D + \angle U = 180$

Find $m\angle CBD$ & $m\widehat{CD}$

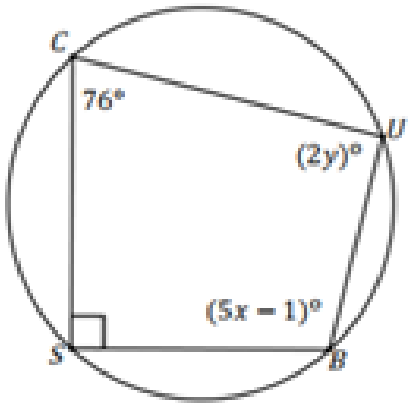


180.0
− 63.5
116.5 = m∠CBD

63.5
× 2
127.0 $127^\circ = m\widehat{CD}$

Your turn:

Find the value of each variable.

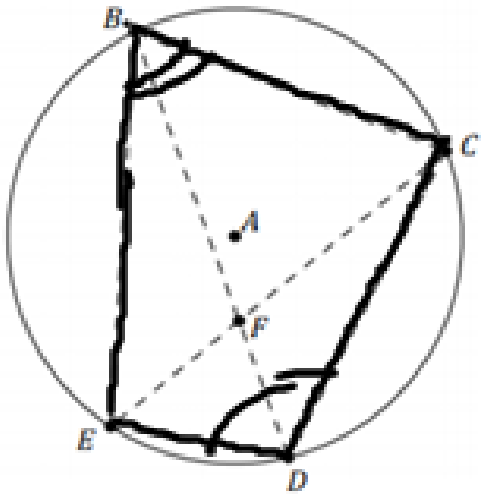


$2y + 90 = 180$
$-90 \quad -90$
$2y = 90$
$y = 45$

$76 + 5x - 1 = 180$
$76 + 5x = 181$
$-76 \quad -76$
$5x = 105$
$x = 21$

Informal Assessment:

Quadrilateral $BCDE$ is inscribed in circle A. Diagonals $\overline{BD}$ and $\overline{EC}$ intercept at point F.



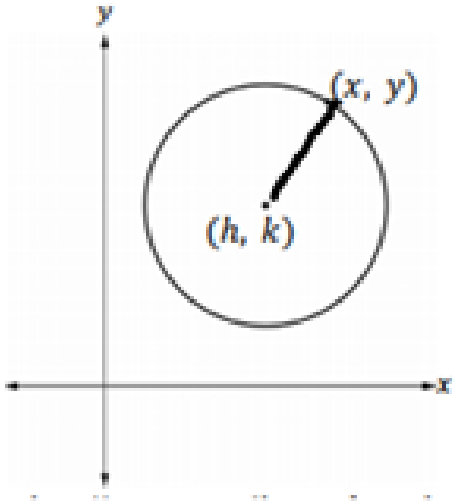
Select the angles and value that would make the statement true about quadrilateral $BCDE$.

$m\angle$ EDC $=$ 180 $-\ m\angle$ EBC

EDC

90°
180°

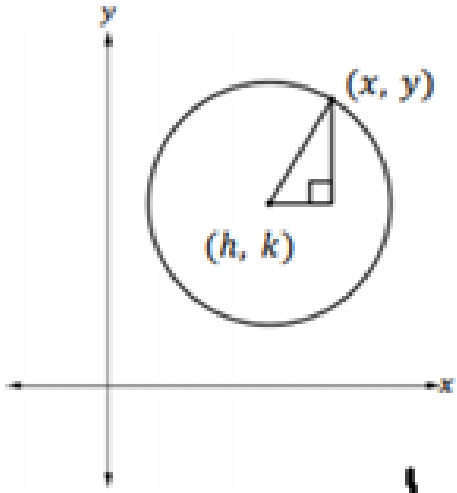
EBC



To find the radius, you can use the distance formula

$$r = \sqrt{(x-h)^2+(y-k)^2}$$

Now, we find the length of the hypotenuse and the horizontal and vertical legs of the triangle.



Horizontal leg length: $|x-h|$

Vertical leg length: $|y-h|$

Hypotenuse length: r

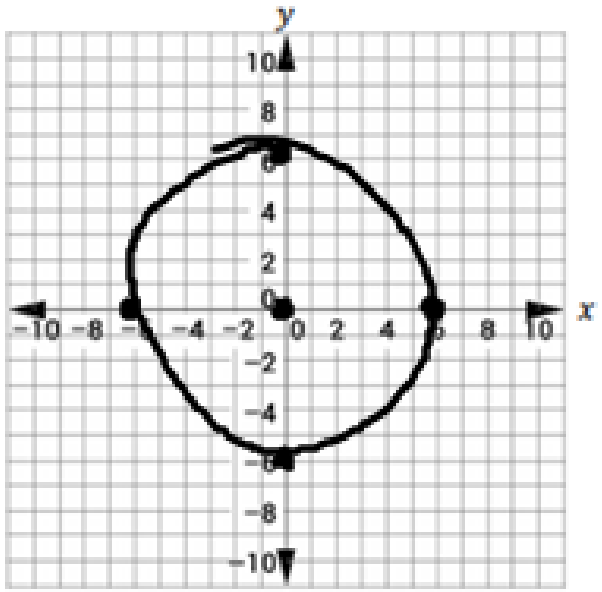
Substitute these lengths into the Pythagorean Theorem.

$(x-h)^2 + (y+k)^2 = r^2$

This is the standard form for the equation of a circle with center (h, k) and radius r.

$$(x-h)^2+(y-k)^2=r^2$$

Graph the equation $x^2 + y^2 = 36$.



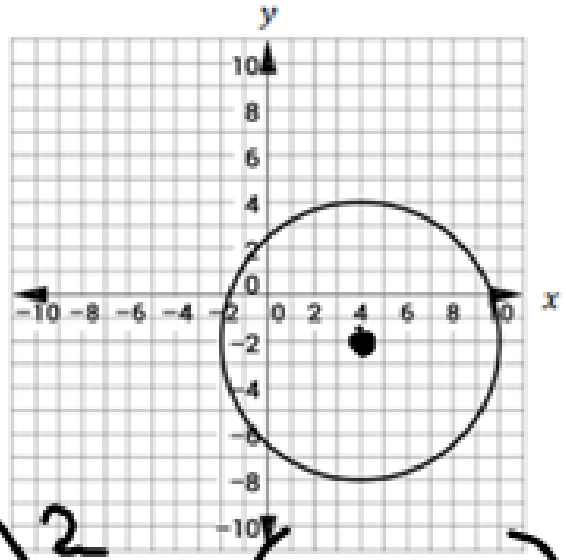
$(0,0)$

$r=6$

$$(x-h)^2+(y-k)^2=r^2$$

$$(x-4)^2+(y--2)^2=6^2$$

Write the equation of the graphed circle.



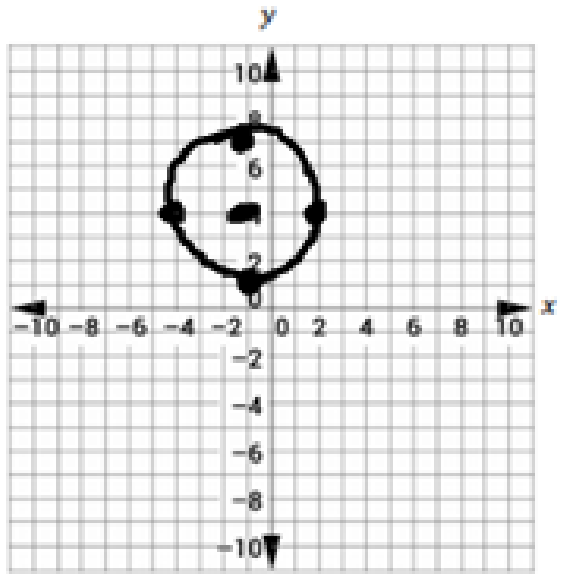
$(4,-2)$

$r=6$

$$(x-4)^2+(y+2)^2=36$$

4. Graph each equation.

a. $(x+1)^2 + (y-4)^2 = 9$



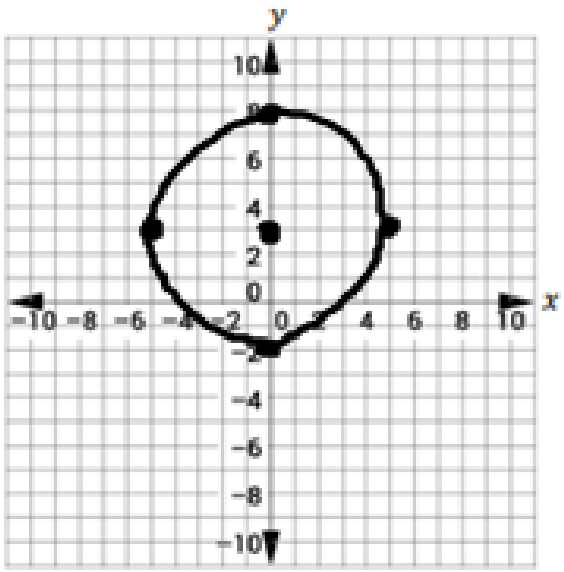
$(-1, 4)$

$r = 3$

b. $x^2 + (y-3)^2 = 25$

(0, 3)

r = 5



$$(x+2)^2+(y+3)^2=25$$

Write the equation of the graphed circle.

$(-2,-3)$

$r=5$