

Name: _____

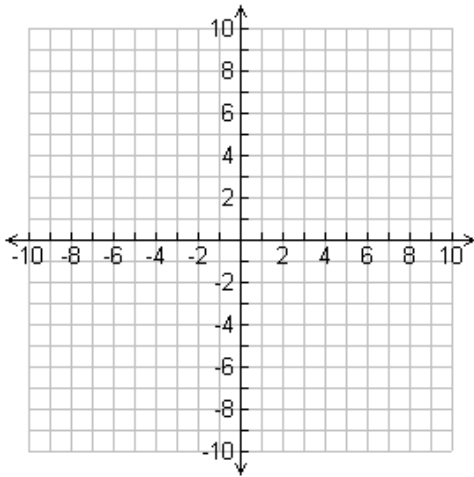
SM2 4.4: Graphing Circles

Identify the center and radius of each. Then sketch the graph.

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

Center:

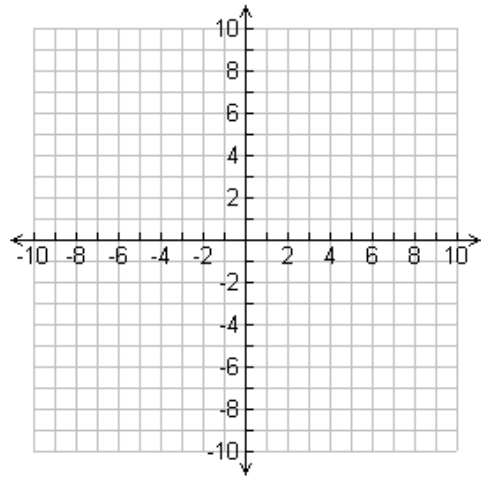
Radius:



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

Center:

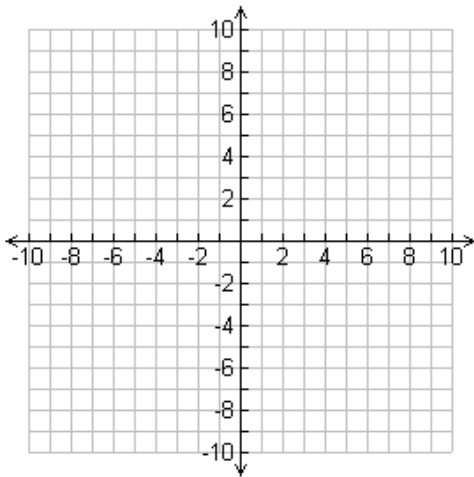
Radius:



3) $(x - 4)^2 + (y + 4)^2 = 9$

Center:

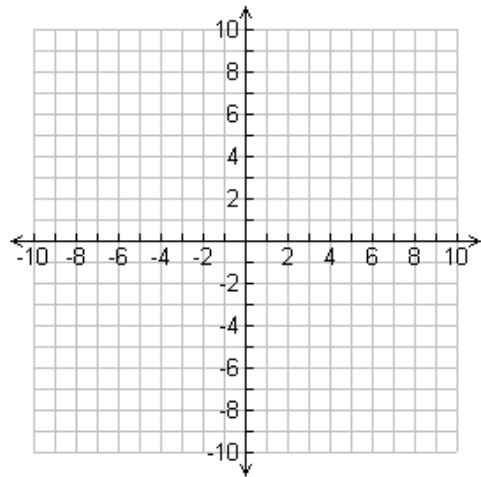
Radius:



4) $(x + 2)^2 + (y - 1)^2 = 25$

Center:

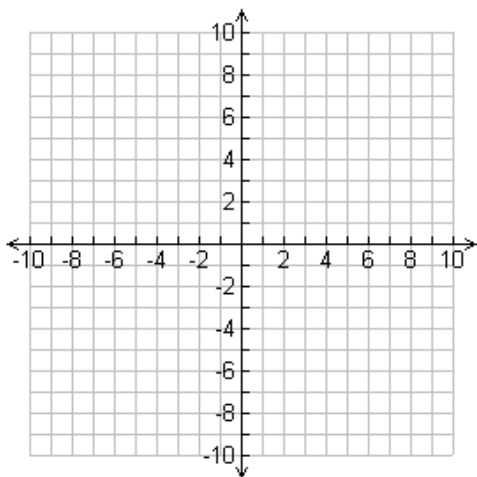
Radius:



5) $(x + 4)^2 + (y - 3)^2 = 4$

Center:

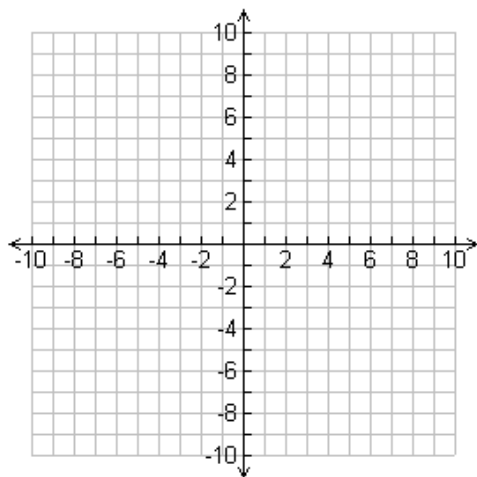
Radius:



6) $(x - 1)^2 + (y + 2)^2 = 4$

Center:

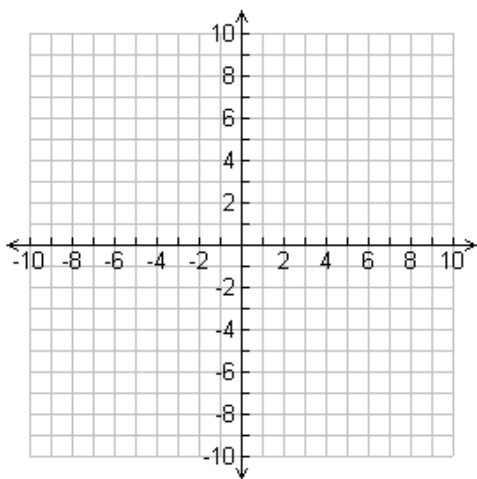
Radius:



7) $(x + 1)^2 + y^2 = 9$

Center:

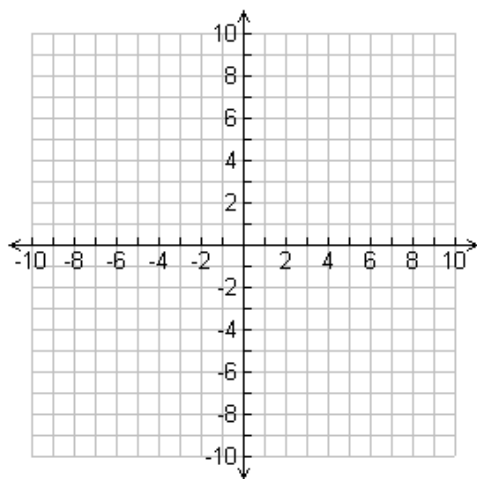
Radius:



8) $(x - 2)^2 + (y - 1)^2 = 11$

Center:

Radius:



Identify the center and radius of each.

9) $(x - 15)^2 + (y + 1)^2 = 49$

Center:

Radius:

10) $x^2 + (y - 14)^2 = 81$

Center:

Radius:

Use the information provided to write the equation of each circle.

11) Center: $(6, 4)$
Radius: 2

12) Center: $(-15, -11)$
Radius: $\sqrt{15}$

13) A particular cell phone tower is designed to service a 12-mile radius. The tower is located at $(-3, 5)$ on a coordinate plane whose units represent miles.

a) What is the standard equation of the outer boundary of the region serviced by the tower?

b) Is a cell phone user at $(8, 0)$ within the service range? Explain.

14) A pizza restaurant will deliver up to 5 miles. The restaurant is located at the origin on a coordinate plane whose units represent miles.

a) What is the standard equation of the outer boundary of the delivery region?

b) Customers are located at $A(4, 3)$, $B(5, 0)$, and $C(2, \sqrt{21})$. Which of these customers, if any, are on the outer boundary of the delivery region? Explain.