SM 2

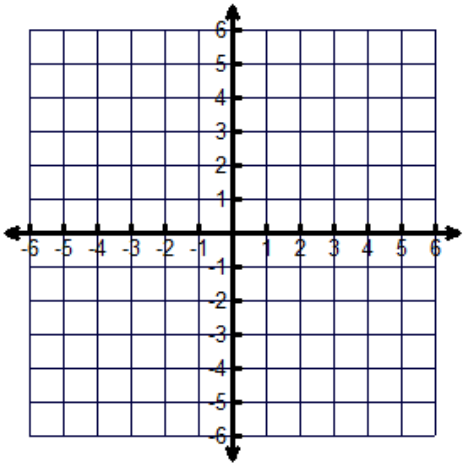
Date: **Section: 12.4**

Objective: Graphing Circles Notes

Equation of a Circle with Center at the Origin and Radius *r* : $x^2 + y^2 = r^2$

Examples: Determine the center and radius of each circle, then graph the circle.

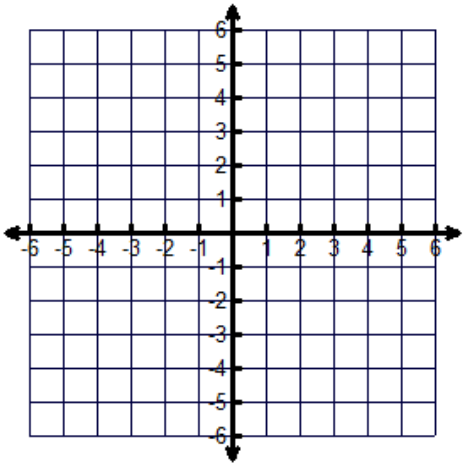
a) $x^2 + y^2 = 36$



Radius: _____

Center: _____

b) $x^2 + y^2 = 13$



Radius: _____

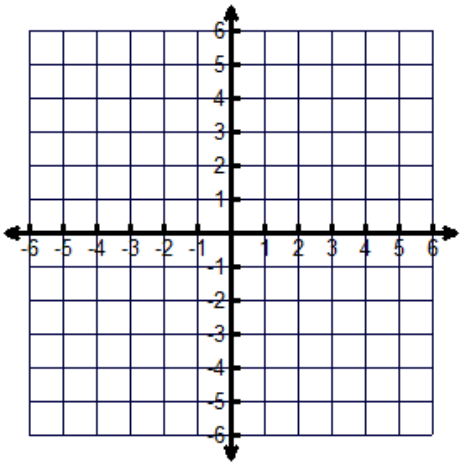
Center: _____

Example: Write the equation of a circle with center at $0,0$ and radius 11.

Equation of a Circle with Center at h,k and Radius *r* : $x-h^{\,2} + y-k^{\,2} = r^2$

Examples: Determine the center and radius of each circle, then graph the circle.

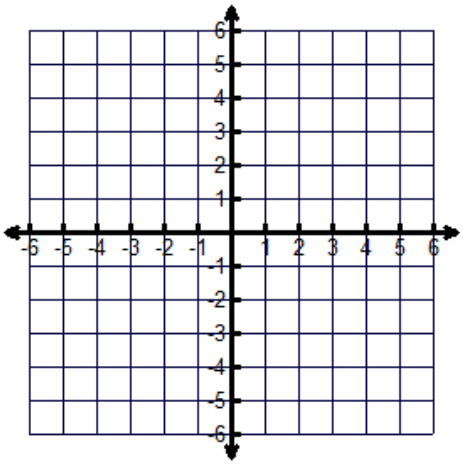
a) $(x-2)^2+(y-1)^2=9$



Radius: _____

Center: _____

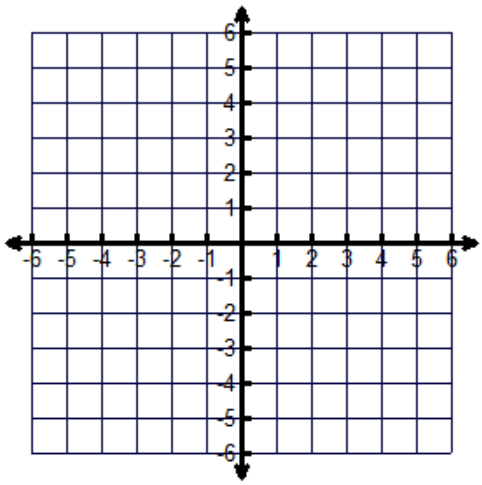
b) $(x+3)^2+(y-5)^2=1$



Radius: _____

Center: _____

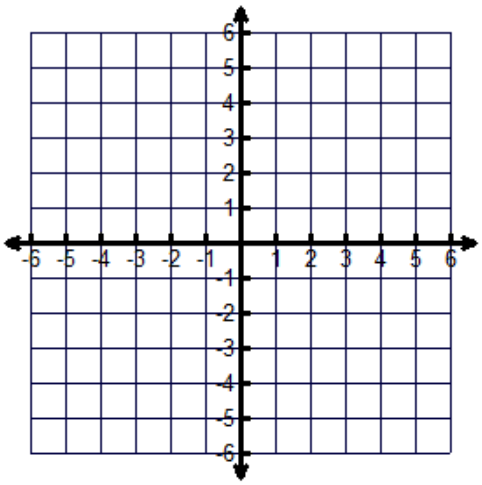
c) $(x+4)^2+(y+1)^2=20$



Radius: _____

Center: _____

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



Radius: _____

Center: _____

Examples: Write the equation of the circle with the given center and radius.

a) $2,5\ ;\ r=7$

Equation: _____

b) $3,-1\ ;\ r=\sqrt{13}$

Equation: _____

c) $-2,12\ ;\ r=15$

Equation: _____

d) $-5,0\ ;\ r=2\sqrt{3}$

Equation: _____

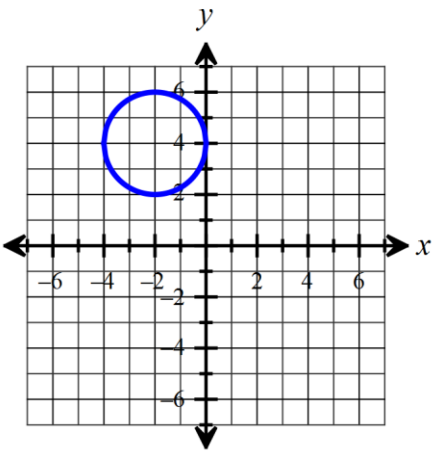
e) $-6,-9\ ;\ r=1$

Equation: _____

f) $0,4\ ;\ r=\frac{1}{2}$

Equation: _____

g)

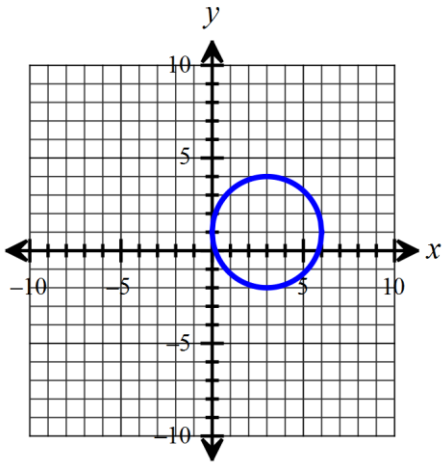


Radius: _____

Center: _____

Equation: _____

h)



Radius: _____

Center: _____

Equation: _____