

## 13.2 ~ The Equation for a Circle

Past due on \_\_\_\_\_ Period \_\_\_\_\_

**Write the standard form equation of the circle with the given center and radius.**

1) Center:  $(-4, -15)$   
Radius: 4

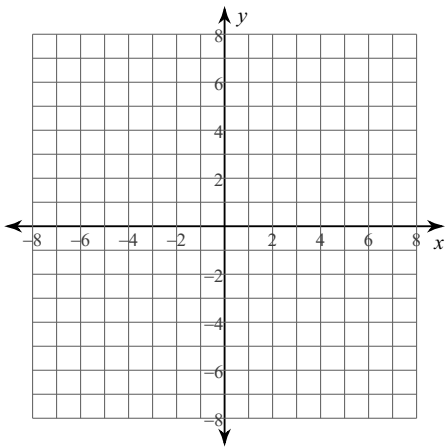
2) Center:  $(9, 9)$   
Radius: 3

3) Center:  $(7, -14)$   
Radius:  $\sqrt{15}$

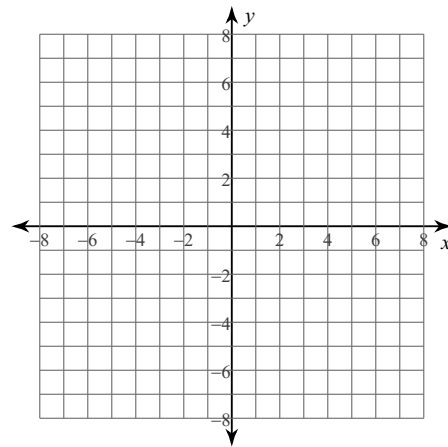
4) Center:  $(4, -10)$   
Radius:  $2\sqrt{5}$

**Given the standard form of the equation of a circle, identify the center and radius and then sketch the graph.**

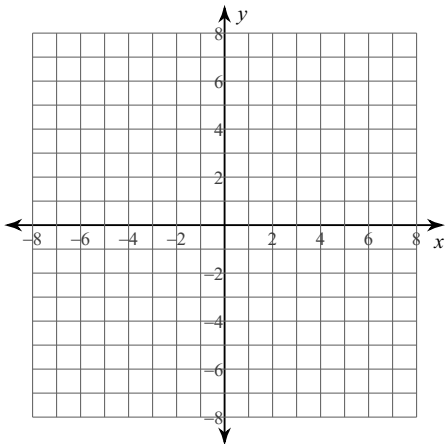
5)  $(x - 4)^2 + (y - 4)^2 = 9$



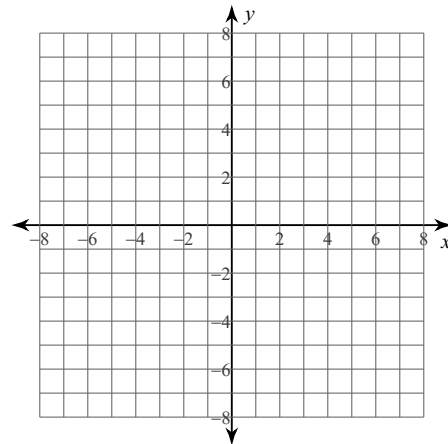
6)  $(x + 3)^2 + (y - 1)^2 = 4$



7)  $(x + 2)^2 + (y - 2)^2 = 25$



8)  $x^2 + (y - 1)^2 = 16$



**Write the standard form equation of the circle described.**

9) Center:  $(2, -13)$   
Point on Circle:  $(-1, -17)$

10) Center:  $(-5, 7)$   
Point on Circle:  $(-10, -3)$

**Find the center and the radius of the circle described. Then write the standard form equation of the circle.**

11) Ends of a diameter:  $(13, 10)$  and  $(5, 18)$

12) Ends of a diameter:  $(-5, -3)$  and  $(-9, -7)$

**Complete the square (twice) to transform the equation of a circle in general form into standard form. Then identify its center and its radius.**

13)  $x^2 + y^2 - 10x + 22y + 121 = 0$

14)  $x^2 + y^2 - 8x - 6y - 11 = 0$

15)  $x^2 + y^2 + 6x + 24y + 149 = 0$

16)  $x^2 + y^2 + 8x - 24y + 151 = 0$