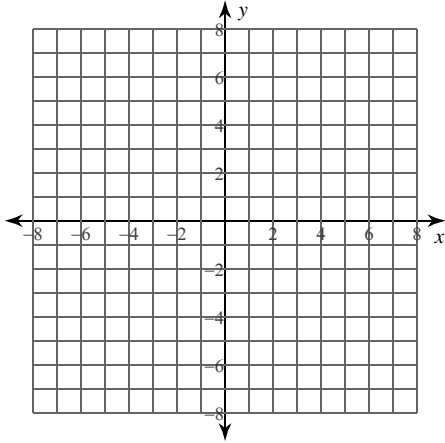# Circles
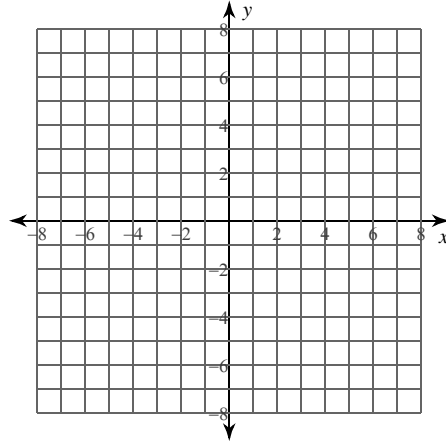
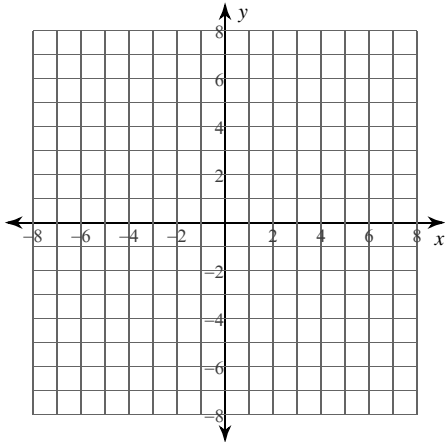**Identify the center and radius of each. Then sketch the graph.**
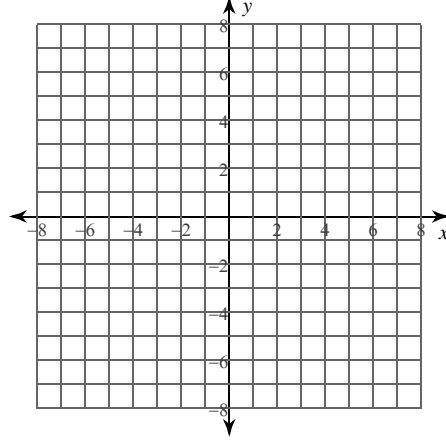
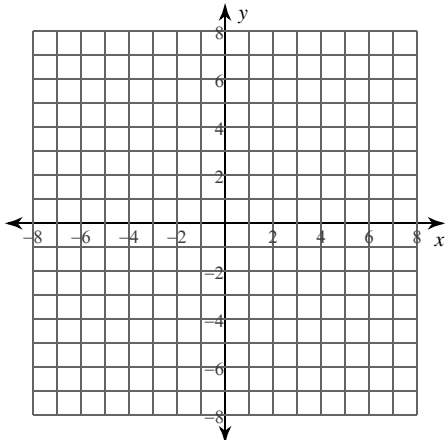1) $(x + 2)^2 + (y - 1)^2 = 9$

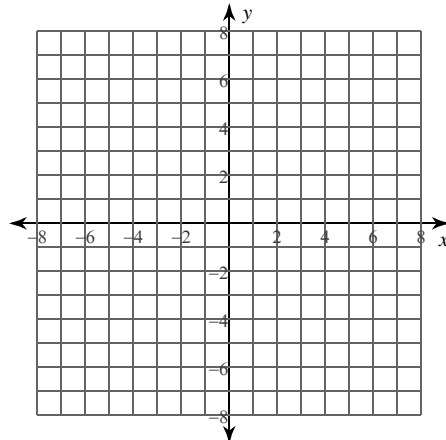2) $(x + 3)^2 + (y + 4)^2 = 5$

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

4) $x^2 + y^2 - 6y = 0$

5) $x^2 + y^2 + 4x + 2y - 4 = 0$

6) $x^2 + y^2 - 4x - 14 = 0$

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

7) Center: $(-13, -14)$
Radius: 1

8) Center: $(15, -8)$
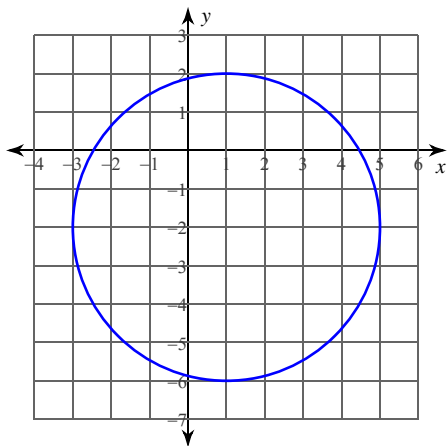Area: 16π

9) Center: $(-2, 9)$
Point on Circle: $(-5, 18)$

10) Center: $(13, 7)$
Tangent to $y = 11$

11) Center lies in the second quadrant
Tangent to $x = -14$, $y = -4$, and $x = 8$

12) Ends of a diameter: $(11, -6)$ and $(1, 14)$

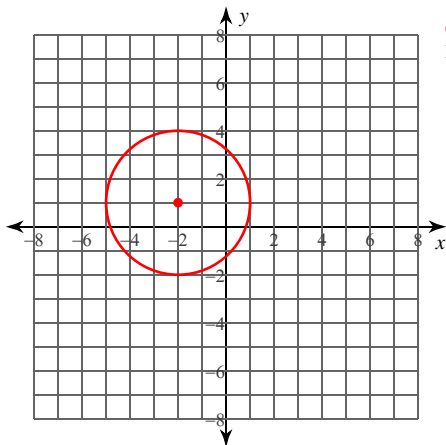**Use the information provided to write the general conic form equation of each circle.**

13)

14) Three points on the circle:
$(7, -4)$, $(-3, -4)$, and $(6, -7)$

Name_____

Circles

Date_____ Period_____

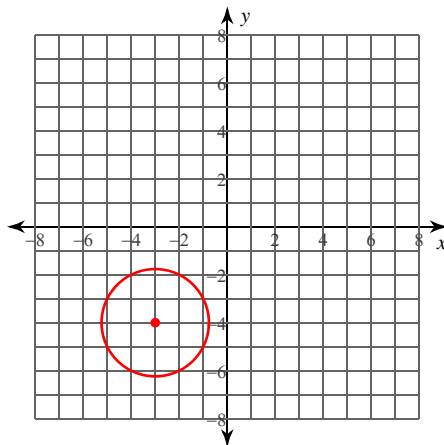**Identify the center and radius of each. Then sketch the graph.**

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

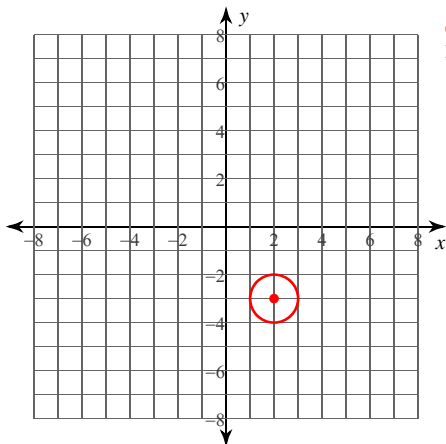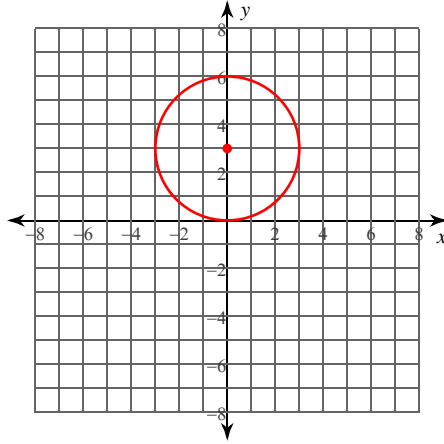Center: $(-2, 1)$
Radius: 3

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

Center: $(-3, -4)$
Radius: $\sqrt{5}$
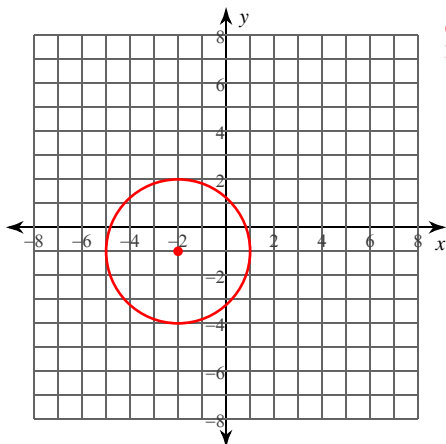
3) $(x-2)^2 + (y+3)^2 = 1$

Center: $(2, -3)$
Radius: 1
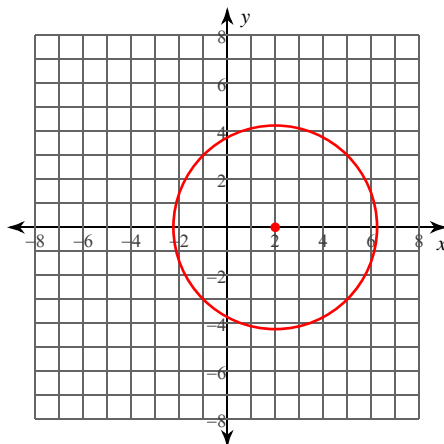
4) $x^2 + y^2 - 6y = 0$

Center: $(0, 3)$
Radius: 3

5) $x^2 + y^2 + 4x + 2y - 4 = 0$

Center: $(-2, -1)$
Radius: 3

6) $x^2 + y^2 - 4x - 14 = 0$

Center: $(2, 0)$
Radius: $3\sqrt{2}$

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

7) Center: $(-13, -14)$
   Radius: 1

   $(x + 13)^2 + (y + 14)^2 = 1$

8) Center: $(15, -8)$
   Area: 16π

   $(x - 15)^2 + (y + 8)^2 = 16$

9) Center: $(-2, 9)$
   Point on Circle: $(-5, 18)$

   $(x + 2)^2 + (y - 9)^2 = 90$

10) Center: $(13, 7)$
    Tangent to $y = 11$

    $(x - 13)^2 + (y - 7)^2 = 16$

11) Center lies in the second quadrant
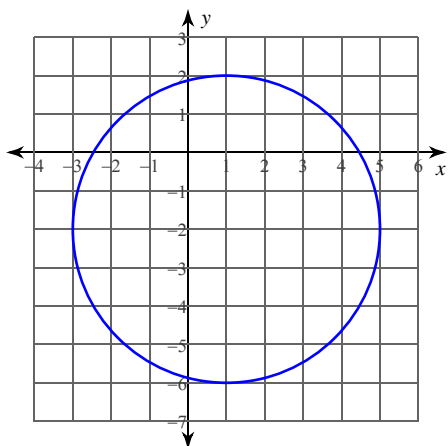   Tangent to $x = -14$, $y = -4$, and $x = 8$

    $(x + 3)^2 + (y - 7)^2 = 121$

12) Ends of a diameter: $(11, -6)$ and $(1, 14)$

    $(x - 6)^2 + (y - 4)^2 = 125$

Use the information provided to write the general conic form equation of each circle.

13)

$x^2 + y^2 - 2x + 4y - 11 = 0$

14) Three points on the circle:
    $(7, -4)$, $(-3, -4)$, and $(6, -7)$

    $x^2 + y^2 - 4x + 8y - 5 = 0$