Name_____

Equation of Circles Homework
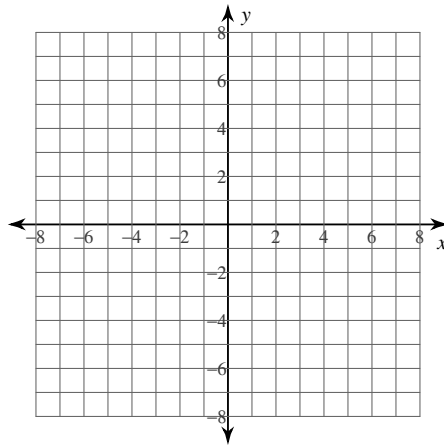**Identify the center and radius of each. Then sketch the graph.**
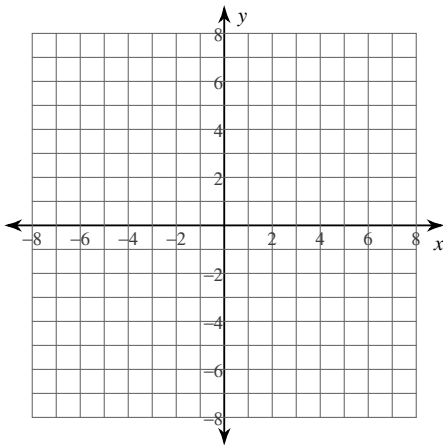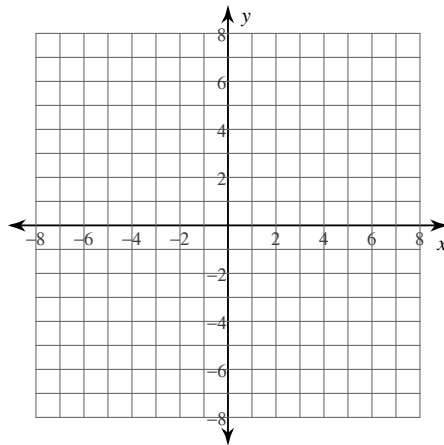
1) $(x-2)^2 + (y-4)^2 = 1$
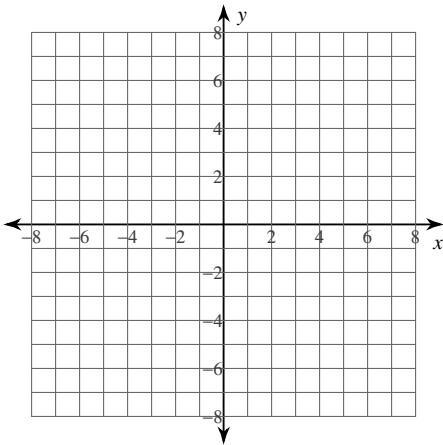
2) $(x-1)^2 + (y-2)^2 = 9$

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

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

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

5) Center: $(-14, -6)$
   Radius: 4

6) Center: $(9, 6)$
   Radius: 7

7) Center: $(1, -15)$
   Radius: 2

8) Center: $(-9, -3)$
   Radius: 7

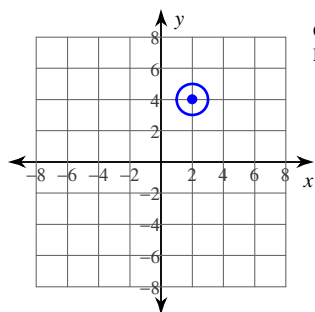9) Center: $(12, -8)$
   Point on Circle: $(5, -8)$

10) Center: $(9, -12)$
    Point on Circle: $(11, -14)$

11) Ends of a diameter: $(-15, 17)$ and $(-3, 3)$

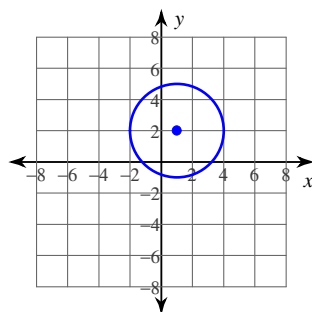12) Ends of a diameter: $(11, -10)$ and $(17, -2)$
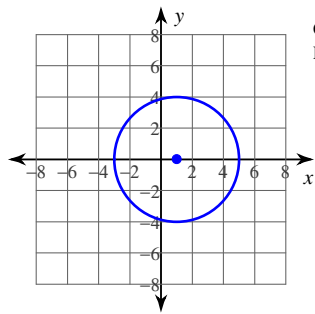
Answers to Equation of Circles Homework
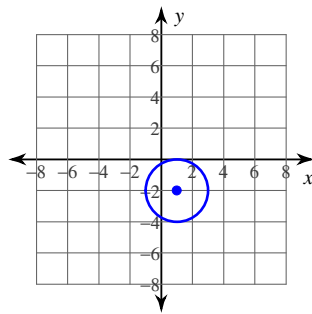
1)

Center: (2, 4)
Radius: 1

2)

Center: (1, 2)
Radius: 3

3)

Center: (1, 0)
Radius: 4

4)

Center: (1, −2)
Radius: 2

5) $(x + 14)^2 + (y + 6)^2 = 16$

6) $(x − 9)^2 + (y − 6)^2 = 49$

7) $(x − 1)^2 + (y + 15)^2 = 4$

8) $(x + 9)^2 + (y + 3)^2 = 49$

9) $(x − 12)^2 + (y + 8)^2 = 49$

10) $(x − 9)^2 + (y + 12)^2 = 8$

11) $(x + 9)^2 + (y − 10)^2 = 85$

12) $(x − 14)^2 + (y + 6)^2 = 25$