Homework 8.10: Equations of Circles Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Math 3

**Note:** If r2 is not a perfect square then leave r in simplified radical form but use the decimal equivalent for graphing. Example: 

1. **Graph the following circle:**
2. (x - 3)2 + (y + 1)2 = 4
3. (x – 2)2 + (y – 5)2 = 9
4. (y + 4)2 + (x + 2)2 = 16
5. **For each circle, identify its center and radius.**
6. (x + 3)2 + (y – 1)2 = 4
7. b. x2 + (y – 3)2 = 18
8. (y + 8)2 + (x + 2)2 = 72

Center:\_\_\_\_\_\_\_\_\_\_\_\_\_

Radius:\_\_\_\_\_\_\_\_\_\_\_\_\_

Center:\_\_\_\_\_\_\_\_\_\_\_

Radius:\_\_\_\_\_\_\_\_\_\_\_\_

Center:\_\_\_\_\_\_\_\_\_\_\_\_\_

Radius:\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Write the equation of the following circles:**

1. Give the equation of the circle that is tangent to the y-axis and center is (-3, 2).

1. **Compare and contrast the following pairs of circles**

a. Circle #1: (x - 3)2+ (y +1)2 = 25

 Circle #2: (x + 1)2 + (y - 2)2 = 25

b. Circle #1: (y + 4)2+ (x + 7)2 = 6

 Circle #2: (x + 7)2 + (y + 4)2 = 36

1. **Find the standard form, center, and radius of the following circles**:
2. x2 + y2 – 4x + 8y – 5 = 0
3. 4x2 + 4y2 + 36y + 5 = 0

 Center:\_\_\_\_\_\_\_\_ Radius:\_\_\_\_\_\_\_\_\_ Center:\_\_\_\_\_\_\_\_ Radius:\_\_\_\_\_\_\_\_\_

1. **Graph the following circles.**
2. x2 – 2x + y2 + 8y – 8 = 0
3. x2 + y2 – 6x + 4y – 3 = 0
4. Give the equation of the circle whose center is

(5,-3) and goes through (2,5)

1. Give the equation whose endpoints of a diameter at (-4,1) and (4, -5)
2. Give the equation of the circle whose center is

(4,-3) and goes through (1,5)

1. Give the equation whose endpoints of a diameter at (-3,2) and (1, -5)