**Geometry Honors 10-8 Homework Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Unit 8 Day 7 – Equations of a Circle Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block: \_\_\_\_\_\_\_**

**1-3: For each circle below, state the coordinates of the center and the length of the radius.**

**1.** (x – 4)2 + (y – 2)2 = 16 **2.** (x + 5)2 + (y – 8)2 = 49 **3.** (x – 3)2 + y2 = 25

**4-7: Write the equation for each circle described below.**

**4.** center at (3, 5), radius = 6 **5.** center at (-7, -2), radius = 8 **6.** center at (0, 0), radius = 1

**7.** A Doppler radar screen shows concentric rings around a storm. If the center of the radar screen is the origin and each ring is 15 miles further from the center, what is the equation of the third ring?

**8-13: Answer the following questions.**

**8.** Dominick’s Pizza and Subs offers free delivery within a 6 mile radius of the restaurant. Consuela’s house is located 4 miles west and 5 miles north of the restaurant.

**a.** If the restaurant is the origin of the situation, write an equation to represent the delivery region of Dominick’s Pizza and Subs.

**b.** Can Consuela get free delivery if she orders from Dominick’s? Explain why or why not.

**9.** Circle *O* has a center at (-3, -2) and a diameter of 5 units. Which of the following points lies on circle *O*?



 **A.** (1, 1)

 **B.** (3, 2)

 **C.** (8, 7)

 **D.** (2, 3)



**10.** Graph the circle with equation (x + 3)2 + (y – 2)2 = 52

**11.** The equation (x + 2)2 + (y – 3)2 = r2 represents circle *A*. The point *B*(1, 7) lies on the circle. What is *r*, the length of the radius of circle *A*?

 A. 11

 B. 

 C. 25

 D. 5

**12.** A circle has a center at (5, -8) and a radius of 6 units. Create the equation of this circle.

 **The Equation of the Circle**



|  |  |
| --- | --- |
| (x + 5) | (x – 5) |
| (x + 5)2 | (x – 5)2 |
| (y + 8) | (y – 8) |
| (y + 8)2 | (y – 8)2 |
| + | - |
| 32 | 62 |

**13.** Which point lies on the circle represented by the equation (x – 5)2 + (y + 1)2 = 102?

 A. (11, 7)

 B. (10, 10)

 C. (0, 7)

 D. (8, 6)