Geometry Part 2 10-8 Homework

Unit 9 Day 6 – Equations of a Circle

Name: Master C

Date: _____ Block: 2

: For each circle below, state the coordinates of the center and the length of the radius.

1. $(x-4)^2+(y-2)^2=16$ C(4,2) $r=\sqrt{16}=4$

2. $(x+5)^2+(y-8)^2=49$ C(-5,8) $r=\sqrt{49}=7$

3. $(x-3)^2+y^2=25$ C(3,0) $r=\sqrt{25}=5$

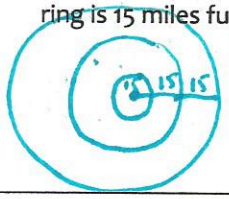
4-7: Write the equation for each circle described below.

4. center at (3, 5), radius = 6 $(x-3)^2+(y-5)^2=36$

5. center at (-7, -2), radius = 8 $(x+7)^2+(y+2)^2=64$

6. center at (0, 0), radius = 1 $x^2+y^2=1$

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?



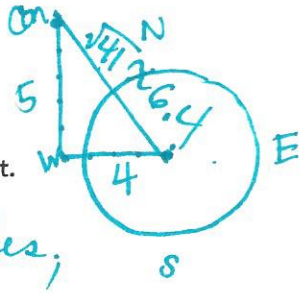
$r=45$ $x^2+y^2=2025$

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.

$x^2+y^2=36$

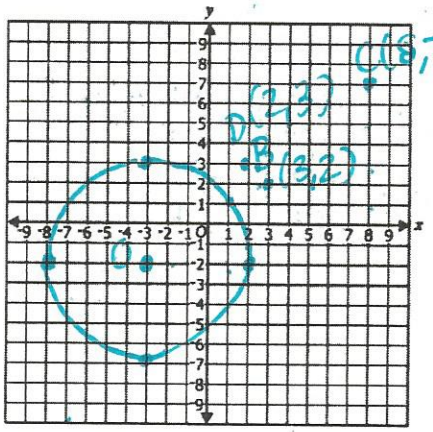


b. Can Consuela get free delivery if she orders from Dominick's? Explain why or why not.

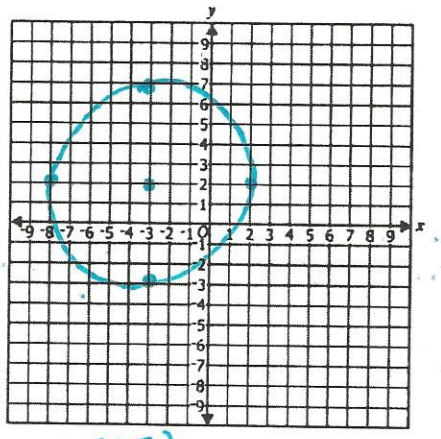
No. The radius to her house is 6.4 miles, which is too far.

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

A. (1, 1)
B. (3, 2)
C. (8, 7)
D. (2, 3)

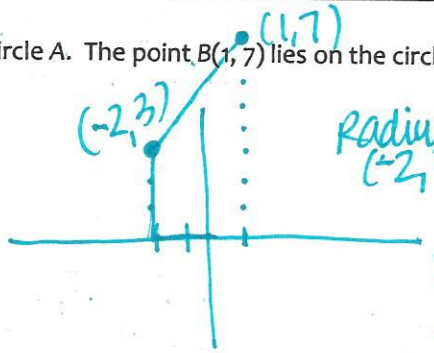


10. Graph the circle with equation $(x + 3)^2 + (y - 2)^2 = 5^2$



11. The equation $(x + 2)^2 + (y - 3)^2 = r^2$ 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. $\sqrt{15}$
C. 25
D. 5



Radius = dist btw. points (-2,3) & (1,7)

$\sqrt{(1-(-2))^2+(7-3)^2}$

$\sqrt{3^2+4^2} = \sqrt{9+16} = \sqrt{25} = 5$

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

$(x-5)^2 + (y+8)^2 = 6^2$

(x + 5)	(x − 5)
$(x + 5)^2$	$(x - 5)^2$
(y + 8)	(y − 8)
$(y + 8)^2$	$(y - 8)^2$
+	-
3^2	6^2

13. Which point lies on the circle represented by the equation $(x - 5)^2 + (y + 1)^2 = 10^2$?

A. (11, 7)
B. (10, 10)
C. (0, 7)
D. (8, 6)

(5,-1) $\sqrt{(-6)^2+(-8)^2} = \sqrt{100} = 10$

(5,-1) $\sqrt{(-5)^2+(-11)^2}$

(5,-1) $\sqrt{(5)^2+(-8)^2}$

(5,-1) $\sqrt{(-3)^2+(-7)^2}$