

Geometry
Unit: Circles
Section: Equation of a Circle

Review Worksheet KEY

1) What is the equation of the circle with center at (-4, 6) and radius 6?

$$(x + 4)^2 + (y - 6)^2 = 36$$

2) What is the center and radius of the circle $(x - 3)^2 + (y - 2)^2 = 100$?

C (3, 2)

r = 10

3) What is the equation of the circle with center at (3, -3) and that passes through the point (8, 9)?

$$r = \sqrt{(8 - 3)^2 + (9 - (-3))^2}$$

$$r = \sqrt{5^2 + 12^2}$$

$$r = \sqrt{25 + 144}$$

$$r = \sqrt{169} = 13$$

$$(x - 3)^2 + (y + 3)^2 = 169$$

4) What is the equation of the circle with endpoints of the diameter at (3, -4) and (-3, 4)?

Center = midpoint

$$x_m = \frac{3 + (-3)}{2} = \frac{0}{2} = 0$$

$$y_m = \frac{-4 + 4}{2} = \frac{0}{2} = 0$$

(0,0)

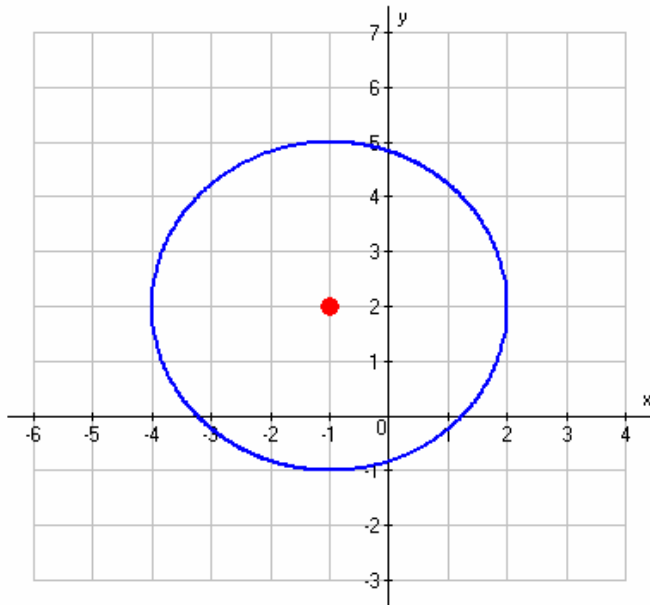
$$r = \sqrt{(-3 - 0)^2 + (4 - 0)^2}$$

$$r = \sqrt{9 + 16}$$

$$r = 5$$

$$x^2 + y^2 = 25$$

5) What is the equation of the circle graphed below?



$C(-1, 2); r = 3$
 $(x + 1)^2 + (y - 2)^2 = 9$

6) Graph the circle $(x - 4)^2 + (y + 2)^2 = 16$.

