



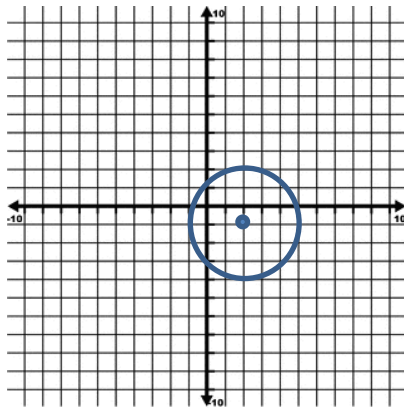
Analyzing Equation of Circle

1. Compare and contrast the equations for lines, parabolas, and circles. (Identify similarities and differences.)

Lines	Parabolas	Circles
$y = 2x - 7$	$y = 3x^2 + 5x - 9$	$(x - 2)^2 + (y + 1)^2 = 9$
$y = \frac{1}{2}x + 5$	$y = -x^2 + 5$	$(x + 3)^2 + (y + 4)^2 = 16$
$y - 8 = 6(x + 4)$	$y = (x - 2)^2 + 4$	$(x - 1)^2 + (y - 3)^2 = 25$
$3x + 4y = 12$	$y + 2 = 16(x + 1)^2$	$x^2 + (y + 7)^2 = 49$
$9x - 2y = 15$	$y = -2x^2 + 5x$	$x^2 + y^2 = 8$

2. Identify the center and radius of the circles graphed below.

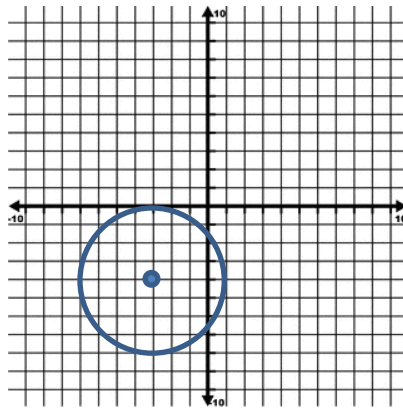
A. $(x - 2)^2 + (y + 1)^2 = 9$



Center: _____

Radius: _____

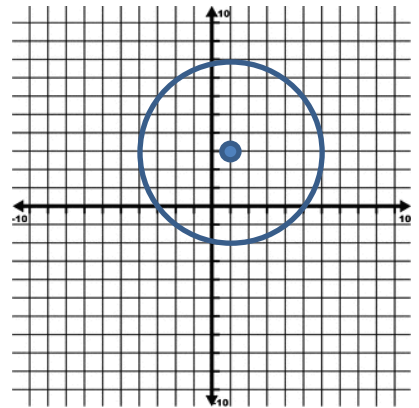
B. $(x + 3)^2 + (y + 4)^2 = 16$



Center: _____

Radius: _____

C. $(x - 1)^2 + (y - 3)^2 = 25$



Center: _____

Radius: _____

* Answer the questions on the following page and post to share with your peers.



3. Analyze the equations and graphs in question #2. Form a hypothesis stating how the center and radius of a circle can be found when given an equation.

4. Test your hypothesis by identifying the center and radius of the circles with the given equations:

A. $(x + 5)^2 + (y - 1)^2 = 4$ B. $(x - 5)^2 + (y - 7)^2 = 36$ C. $x^2 + (y + 7)^2 = 49$

Center: _____ Center: _____ Center: _____

Radius: _____ Radius: _____ Radius: _____