Name _____ Date_____ Period ___

Mathematics 3 for College Graduates **Day 20 Classwork**

Topic: Circles and Parabolas Review **Unit 2: Conics**

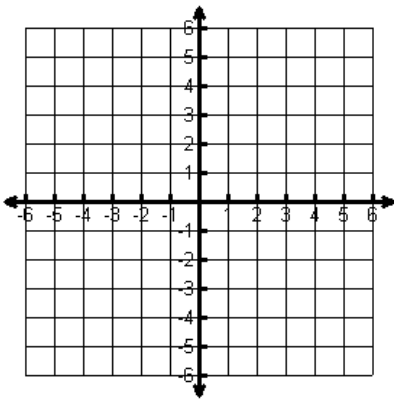
Checkout: msgiwa1.weebly.com and twitter.com/msgiwa1 for help & updates!

Graph the following circles. State the center and radius.

1. $x^2 + y^2 = 24$

Center: _____

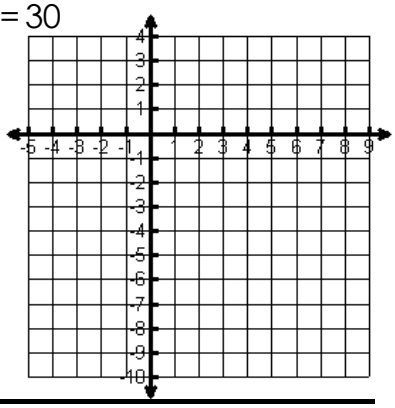
Radius: _____



2. $(x-2)^2 + (y+3)^2 = 30$

Center: _____

Radius: _____



Write the standard equation for the circle. State the center and radius.

3. $\mathbf{2x^2 + 2y^2 - 20x - 4y = -20}$

4. $\mathbf{4x^2 + 4y^2 - 32x + 16y - 24 = 0}$

5a. Explain how you can recognize a circle.

5b. Explain how you can recognize a parabola.

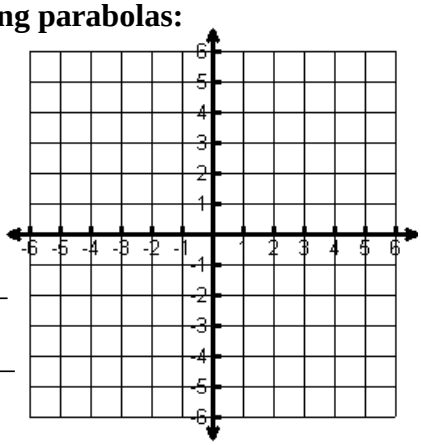
Graph the following parabolas:

6. $4x + y^2 = 0$

Direction:_____

Focus: _____

Directrix: _____

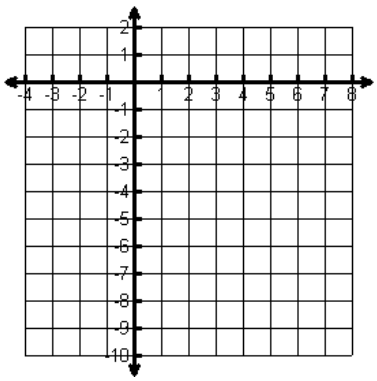


7. $x^2 = 12y$

Direction:_____

Focus: _____

Directrix: _____



Write the parabola in standard form and state vertex:

8. $x^2 + 10x - 6y + 7 = 0$

9. $y - \frac{3}{4}x^2 = 0y = 14$

Write the equation of each parabola described below:

9. The vertex is (0, 0) and the focus is (-4, 0).

10. The directrix is $x = 2$ and the vertex is (0,0).

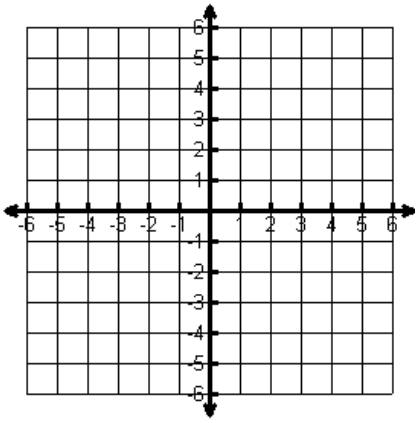
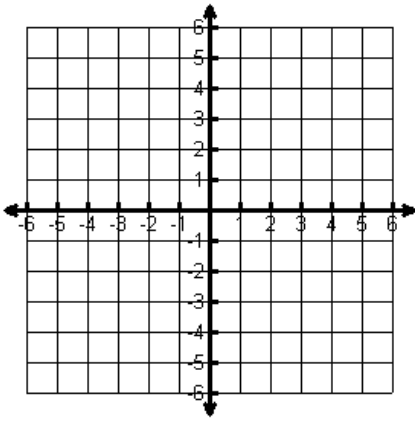
Find the intersection of the two equations:

12.
$$y = x$$
$$(x+1)^2 + (y-3)^2 = 36$$

Intersection(s): _____

13.
$$x^2 + (y-4)^2 = 36$$
$$x^2 + y^2 = 16$$

Intersection(s): _____

14. Concetric Circles: Three concentric circles are drawn on the coordinate plane. The center of the circles is located at (-1, 1). The radius of the next circle increases by two, then another by three more units. What is the equation of the third circle.

15. Diameter The center of a circle is at (-1, 1) with a diameter of 10. What is the equation of the circle?