Precaclulus/Trig 3 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Conic Sections Worksheet #1

Write the equation of the conic section that meets each set of criteria:

1. An ellipse with a center at (-2, 5), a vertical minor axis that is 6 units long, and the distance between the center and one of the foci is 4 units.

2. A circle that passes through the point (7, -1) and has its center at (-2, 4).

3. A Hyperbola in which the center is at the point (3, 2), the length of the line segment contained in the horizontal transverse axis whose endpoints are the vertices of the hyperbola is 8. There are critical points 2 units above and 2 units below the center point.

4. A circle in which the endpoints of the diameter are at (3, 10) and (-5, 4).

5. An ellipse with a center at (4, -1), the length of the horizontal axis is 16 and the length of the vertical axis is 10.

6. A hyperbola whose vertices are (2, 2) and (-2, 2) and whose foci are (4, 2) and (-4, 2).

7. An ellipse in which the foci are at  and , and the minor axis has a length of 6.

8. An ellipse is defined by the equation . Write the equation in standard form, find the coordinates of the center, foci, and vertices of the ellipse. Graph the ellipse.

9. A circle is defined by the equation . Write the equation in standard form, fine the coordinates of the center and list four points on the circle.

Graph the following equations. Include any critical points.

10. 

11. 

12. 

13. 

14. 