PreCalculus Unit 4 Review (Practice Test) Name:_____

Directions: Practice problems 8, 10, 12, and 22 with and without a calculator.

1) Find the focus for a parabola with vertex (5, -2) & directrix $y = 3$.

2) Find the vertex for a parabola with focus (5, -2) & directrix $x = -6$.

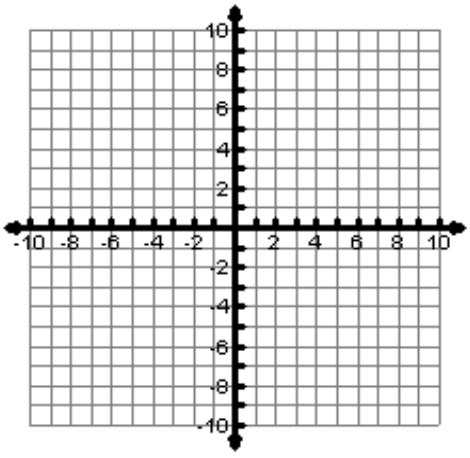
3) Find the directrix for a parabola with vertex (4, -2) & focus (4, -7).

4) Write the equation for a parabola with vertex (3, 2) & directrix $x = -1$.

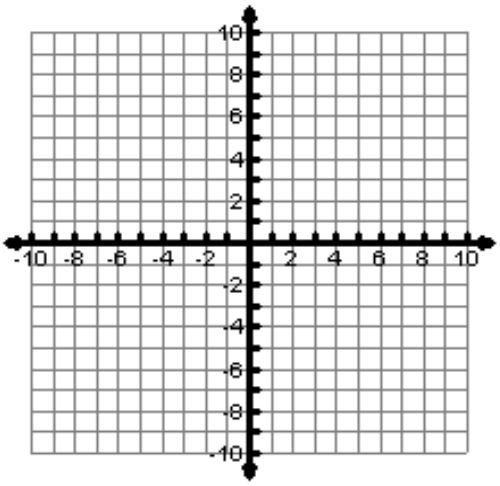
5) Find the vertices of an ellipse with foci (0, 4), (0, -4) & minor axis of 6.

6) Write the equation for an ellipse with vertices (13, 3), (-13, 3) & foci (12, 3), (-12, 3).

7) Draw the graph and write the equation of an ellipse with a major axis of 12, minor axis of 10 & center at the origin.

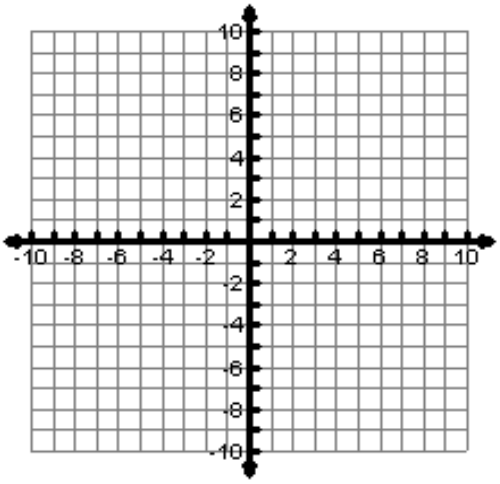


8) Draw & label the graph of $12x^2 + 4y^2 = 48$.



9) Find the eccentricity of #8.

10) Draw & label the graph of $25(x-2)^2 - 16(y+3)^2 = 400$.



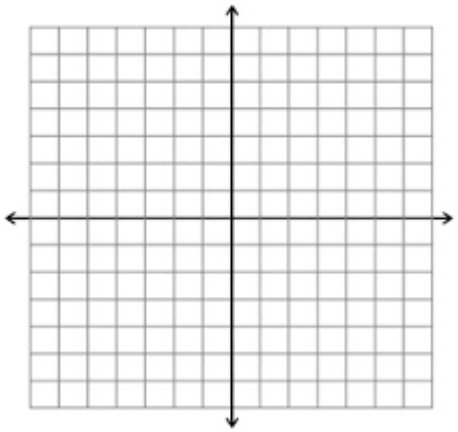
11) Find the eccentricity of #10.

12) Find the vertices & foci of $4y^2 - 6x^2 = 36$.

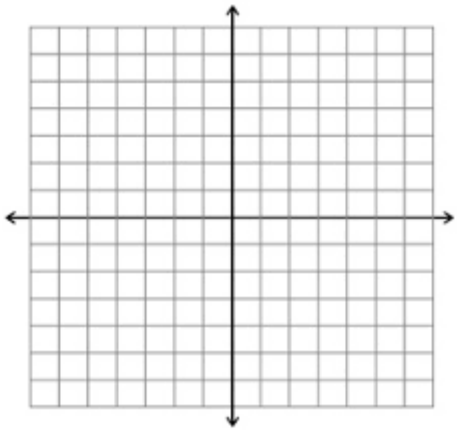
13) Write the equation for a hyperbola with foci (13, 3), (-13, 3) & vertices (12, 3), (-12, 3).

14) Find the equation of the asymptotes of #13.

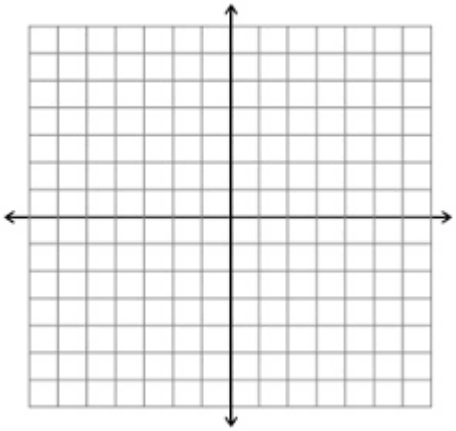
15) Draw and Label all parts of an ellipse.



16) Draw and Label all parts of a hyperbola.



17) Draw and Label all parts of a parabola.



18) In the textbook do problem #53 on p. 653.

19) In the textbook do problem #75 on p. 699.

20) In the textbook, do problem #53 on p. 641.

21) In the textbook, do problem #40 on p. 698.

22) Find the vertex, focus, directrix, and focal width of $(x + 2)^2 = -4(y - 1)$.