

## Test #4: Chapter 8 Mth 164-280

Name: \_\_\_\_\_

### **Important Dates/Times:** Turn This Test in By-

Friday, 8:00AM, 04/09/10 = 10 point bonus

Tuesday, 7:00PM, 04/13/10 = as graded

Wednesday, 8:00AM, 04/14/10 = max(25 point penalty, 0 grade)

Thursday, 8:00AM, 04/15/10 = max(50 point penalty, 0 grade)

Friday, 8:00AM, 04/16/10 = max(75 point penalty, 0 grade)

Any Date Later = 0 grade

**Instructions:** Print this test from the PDF file on Blackboard. Show all work on these pages. You may use the back of the pages, if necessary. Put only the answers in the answer block(s) if provided.

- If instructed to provide the numerical (*decimal*) answer, round it to the specified precision.
- If instructed to provide the *exact* answer, use  $\pi$ , a radical expression ( $\sqrt{\quad}$ ), or a fraction, as applicable.

1. Find the vertex, focus, and directrix of the parabola given by  $x^2 = -\frac{1}{8}y$ .

Vertex	
Focus	
Directrix	

2. Find the vertices and foci of the ellipse given by  $4x^2 + 25y^2 - 8x - 150y + 129 = 0$ .

Vertex, $V_1$	
Vertex, $V_2$	
Focus, $F_1$	
Focus, $F_2$	

3. Find the equation in standard form of an ellipse with foci  $(3 + \sqrt{11}, 8)$ ,  $(3 - \sqrt{11}, 8)$ , and minor axis of length 10 units.

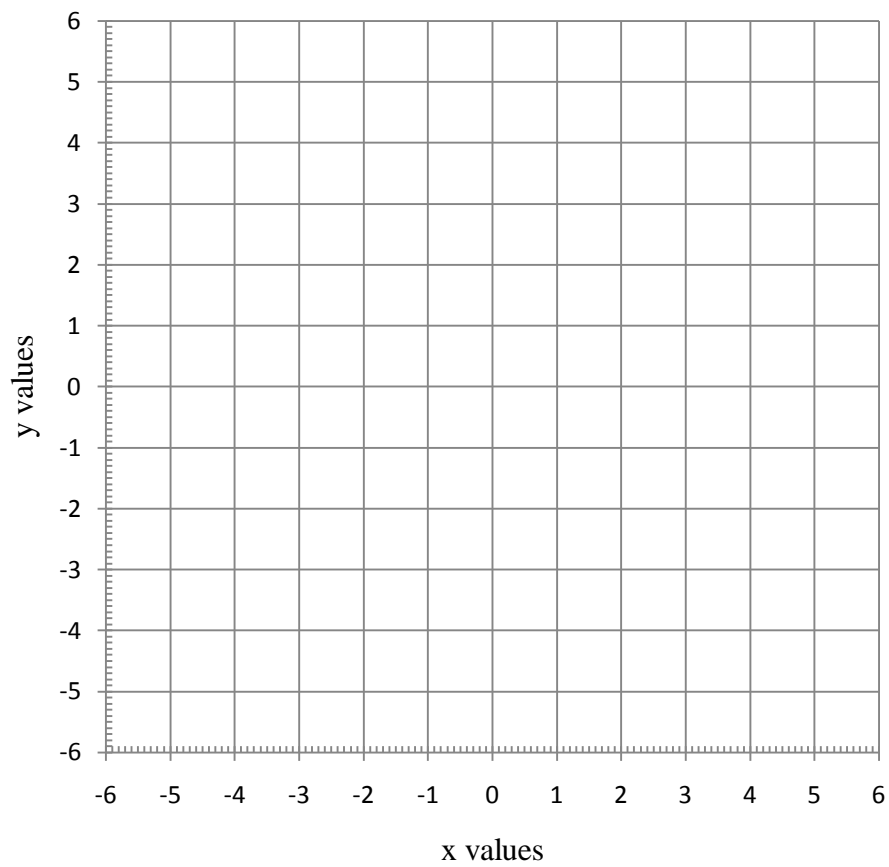
Answer:

4. Find the vertices, foci, and asymptotes of the hyperbola given by the equation:

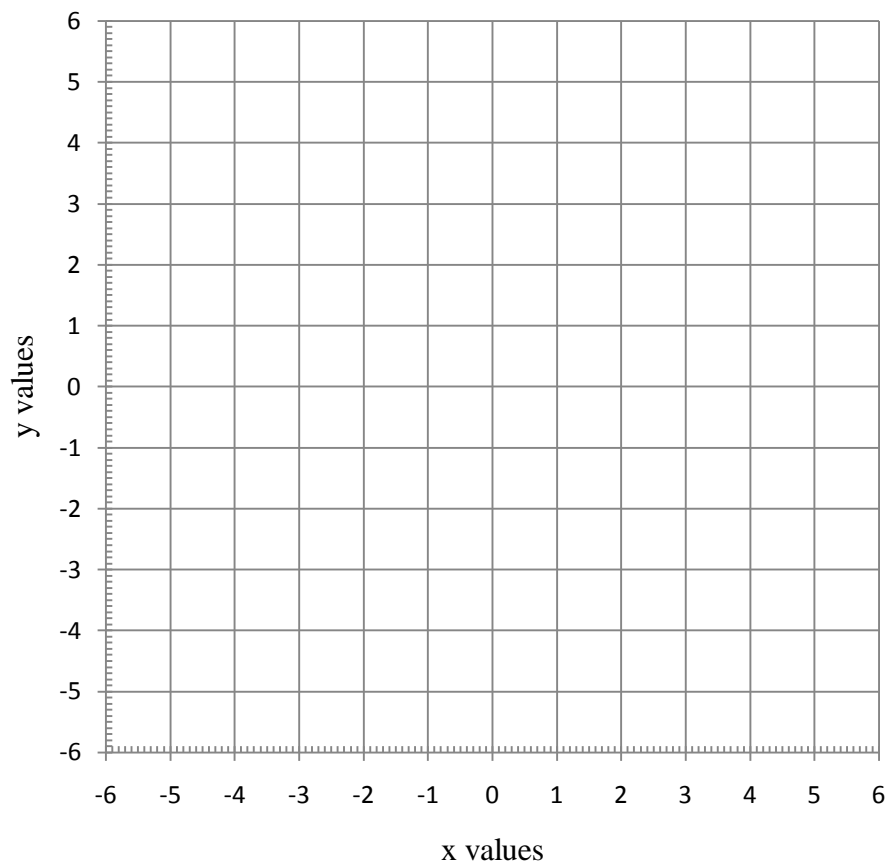
$$\frac{x^2}{25} - \frac{y^2}{100} = 1 .$$

Vertex, $V_1$	
Vertex, $V_2$	
Focus, $F_1$	
Focus, $F_2$	
Asymptotes	

5. Graph:  $\frac{x^2}{36} + \frac{y^2}{16} = 1$



6. Graph:  $\frac{x^2}{25} - \frac{y^2}{4} = 1$



7. Find the vertices and asymptotes of the hyperbola given by the equation:

$$4x^2 - y^2 + 24x - 2y + 31 = 0 .$$

Vertex, $V_1$	
Vertex, $V_2$	
Asymptotes	

8. Find the equation, in standard form, of the parabola with directrix  $x = 5$  and focus  $(11, -7)$ .

Answer:



9. Determine whether the graph of  $x^2 - 6x - 12y - 15 = 0$  is the graph of a parabola, an ellipse, or a hyperbola.

Answer – check the box of the correct graph	
<input type="checkbox"/>	This is a graph of a parabola.
<input type="checkbox"/>	This is a graph of an ellipse.
<input type="checkbox"/>	This is a graph of a hyperbola.

10. Eliminate the parameter of the curve given by  $x = t + 5$ , and  $y = t^2 + 3$ .

Curve:  $y =$
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11. Eliminate the parameter of the curve given by  $x = 3 \sin t$ ,  $y = 4 \cos t$  and graph the curve given by these parametric equations.

Curve:

