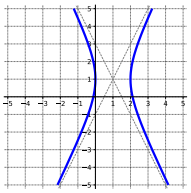
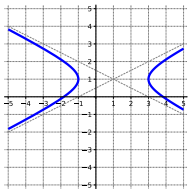
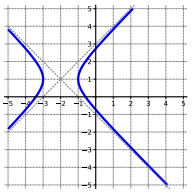
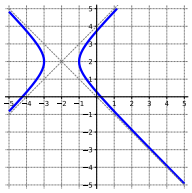
AOS Math 10 Conic Sections Test

Name and section: _____

Instructor's name: _____

Multiple Choice

1. Which is a hyperbola?

A.  B.  C.  D. 

1. _____

2. What are the foci of the hyperbola $\frac{x^2}{16} - \frac{y^2}{12} = 1$?

A. $(\pm 2\sqrt{7}, 0)$ B. $(\pm 2, 0)$ C. $(0, \pm 2)$ D. $(0, \pm 2\sqrt{7})$

2. _____

3. Tell me about $\frac{x^2}{9} - \frac{(y-2)^2}{7}$

A. $(\pm 2\sqrt{7}, 0)$ B. $(\pm 2, 0)$ C. $(0, \pm 2)$ D. $(0, \pm 2\sqrt{7})$

3. _____

4. Tell me about $\frac{x^2}{9} - \frac{(y-2)^2}{7}$

A. $(\pm 2\sqrt{7}, 0)$ B. $(\pm 2, 0)$ C. $(0, \pm 2)$ D. $(0, \pm 2\sqrt{7})$

4. _____

5. Tell me about $\frac{x^2}{9} - \frac{(y-2)^2}{7}$

A. $(\pm 2\sqrt{7}, 0)$ B. $(\pm 2, 0)$ C. $(0, \pm 2)$ D. $(0, \pm 2\sqrt{7})$

5. _____

6. Tell me about $\frac{x^2}{9} - \frac{(y-2)^2}{7}$

A. $(\pm 2\sqrt{7}, 0)$ B. $(\pm 2, 0)$ C. $(0, \pm 2)$ D. $(0, \pm 2\sqrt{7})$

6. _____

True / False

1. ____ The major axis of a (non-circular) ellipse is always longer than the minor axis.
2. ____ The transverse axis of a hyperbola is always longer than the conjugate axis.
3. ____ The foci of an ellipse are on the minor axis.
4. ____ The focus of the parabola $x^2 = 8y$ is the lowest point on the parabola.

5. ____ The graph of $\frac{x^2}{16} + \frac{y^2}{25} = 1$ fits entirely inside the graph of $x^2 + y^2 = 30$
6. ____ The directrix of a parabola is perpendicular to the axis of symmetry.
7. ____ The distance between two foci of an ellipse or a hyperbola is $2c$.
8. ____ The eccentricity of an ellipse can be $e = 1.14$.
9. ____ A circle is just an ellipse with $a = b$.
10. ____ The graphs of $\frac{x^2}{2} - \frac{y^2}{3} = 1$ and $\frac{y^2}{2} - \frac{x^2}{3} = 1$ have the same asymptotes.