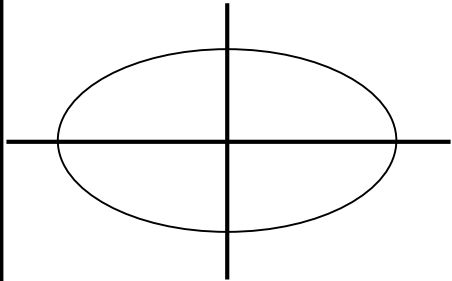
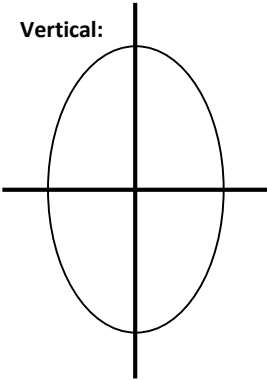


Ellipse Notes Lesson 3

An ellipse is an oval shape. An ellipse has two focus points (called foci) that determine how wide or narrow the ellipse is.

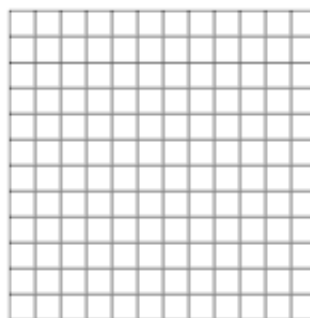
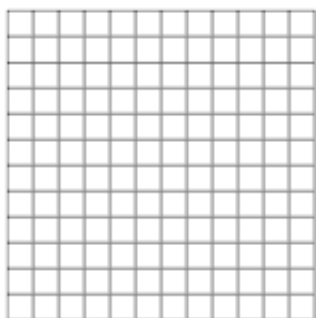
<p>Standard form with center (h,k)</p> <p>Horizontal:</p> 	<p>Vertical:</p> 
---	---

Foci Equation (For Ellipses): _____

Example 1... Write an equation in standard form of the following ellipses, centered at the origin. Then graph the ellipse.

a. vertex at (0,5) and co-vertex (2,0)

b. vertex at (-6,0) and co-vertex at (0,3)



Example 2... Write an equation of an ellipse centered at the origin that is 12 units wide and 30 units high.

Example 3... Find the foci of the following ellipses.

a. $\frac{x^2}{25} + \frac{y^2}{4} = 1$

b. $25x^2 + 9y^2 = 225.$

Example 4... Write an equation of an ellipse with foci at $(\pm 7, 0)$ and co-vertices at $(0, \pm 6)$.

Example 5... Write an equation of an ellipse with the following characteristics.
center $(-2, 1)$, horizontal major axis of length 6, minor axis of length 4

Example 6... Rewrite the ellipse equation in standard form by completing the square.
Then find the center and foci.

a. $3x^2 + y^2 + 6x - 6y = -3$

b. $25x^2 + 16y^2 + 150x = 160y - 225$