

5.

$$3y^2 + 12x^2 = 12$$

$$\frac{3y^2}{12} + \frac{12x^2}{12} = \frac{12}{12}$$

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

$$\frac{(y-0)^2}{(2)^2} + \frac{(x-0)^2}{(1)^2} = 1$$

$\begin{matrix} \swarrow & \searrow \\ k=0 & h=0 \\ \downarrow & \downarrow \\ a=2 & b=1 \end{matrix}$

$$c = \sqrt{a^2 - b^2}$$

$$c = \sqrt{2^2 - 1^2}$$

$$c = \sqrt{4 - 1}$$

$$c = \sqrt{3}$$

RIGHT

$$a=2 \quad b=1 \quad c=\sqrt{3} \quad h=0 \quad k=0$$



$$\text{CENTER: } (h, k) = (0, 0)$$

MAJOR AXIS:  $\emptyset$

$$\text{LENGTH MAJOR AXIS: } 2a = 2(2) = 4$$

$$\text{LENGTH MINOR AXIS: } 2b = 2(1) = 2$$

$$\text{FOCI: } (h, k+c) \quad (h, k-c)$$

$$(0, 0+\sqrt{3}) \quad (0, 0-\sqrt{3})$$

$$(0, \sqrt{3}) \quad (0, -\sqrt{3})$$

$$\text{VERTICES: } (h, k+a) \quad (h, k-a)$$

$$(0, 0+2) \quad (0, 0-2)$$

$$(0, 2) \quad (0, -2)$$

