

5. $3x^2 - y^2 = 9$ (LEFT)

$$\frac{3x^2}{9} - \frac{y^2}{9} = \frac{9}{9}$$

$$\frac{x^2}{3} - \frac{y^2}{9} = 1$$

$$\frac{(x-h)^2}{a^2} - \frac{(y-k)^2}{b^2} = 1$$

$h=0$ $k=0$
 $a = \sqrt{3}$ $b = 3$

$$b^2 = c^2 - a^2$$

$$3^2 = c^2 - (\sqrt{3})^2$$

$$9 = c^2 - 3$$

$$9 + 3 = c^2$$

$$12 = c^2$$

$$c = \sqrt{12}$$

$$c = 2\sqrt{3}$$

(L)

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

≈ 1.7

CENTER: $(h, k) = (0, 0)$

TRANSVERSE AXIS: $y = 0$

$y = \#$

Foci: $(h+c, k)$ $(h-c, k)$

$$(0 + 2\sqrt{3}, 0) \quad (0 - 2\sqrt{3}, 0)$$

$$(2\sqrt{3}, 0) \quad (-2\sqrt{3}, 0)$$

VERTICES: $(h+a, k)$ $(h-a, k)$

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

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

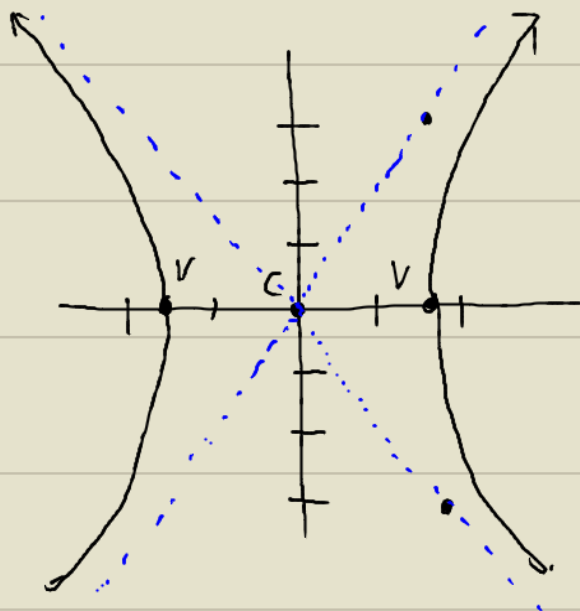
$$(1.7, 0) \quad (-1.7, 0)$$

ASYMPTOTES

$$y - k = \pm \frac{b}{a}(x - h)$$

$$y - 0 = \pm \frac{3}{\sqrt{3}}(x - 0)$$

$$y = \pm \frac{3}{\sqrt{3}}x$$



$$y = \frac{3}{1.7}x + 0$$

$$y = -\frac{3}{1.7}x + 0$$