

4.  $\frac{x'^2}{8} - \frac{y'^2}{8} = 1$  (LEFT)

$$\frac{(x'-0)^2}{(\sqrt{8})^2} - \frac{(y'-0)^2}{(\sqrt{8})^2} = 1$$

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

$h=0$  (pointing to  $x'$ )  
 $k=0$  (pointing to  $y'$ )  
 $a=2\sqrt{2}$   
 $b=2\sqrt{2}$

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

$$(\sqrt{8})^2 = c^2 - (\sqrt{8})^2$$

$$8 = c^2 - 8$$

$$16 = c^2$$

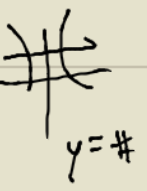
$$c = \sqrt{16}$$

$$c = 4$$

$a=2\sqrt{2} \approx 2.8$      $b=2\sqrt{2} \approx 2.8$      $c=4$      $h=0$      $k=0$   
 $\approx 2.8$      $\approx 2.8$

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

TRANSVERSE AXIS:  $y=0$



FOCI:

- $(h+c, k)$      $(h-c, k)$
- $(0+4, 0)$      $(0-4, 0)$
- $(4, 0)$      $(-4, 0)$

VERTICES

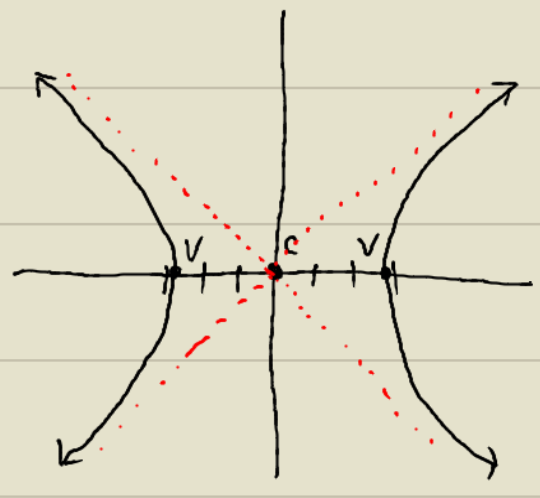
- $(h+a, k)$      $(h-a, k)$
- $(0+2\sqrt{2}, 0)$      $(0-2\sqrt{2}, 0)$
- $(2\sqrt{2}, 0)$      $(-2\sqrt{2}, 0)$
- $(2.8, 0)$      $(-2.8, 0)$

ASYMPTOTES

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

$$y-0 = \pm \frac{2\sqrt{2}}{2\sqrt{2}}(x-0)$$

$$y = \pm x$$



$y = x$      $y = -x$

