

3.

VERTICES:

$(-6, 0)$

$(6, 0)$

ASYMPTOTE

$y = 3x$

LEFT

$h - a = -6$

$h + a = 6$

$k = 0$

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

$y = \frac{b}{a}x$

so

$\frac{b}{a} = 3$

$\frac{b}{6} = 3$

$b = 18$

$h - a = -6$

$\frac{h + a}{2} = \frac{6}{2}$

$h = 0$

$h + a = 6$

$0 + a = 6$

$a = 6$

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

$18^2 = c^2 - 6^2$

$324 = c^2 - 36$

$324 + 36 = c^2$

$360 = c^2$

$c = \sqrt{360}$

$c = 6\sqrt{10}$

$a = 6 \quad b = 18 \quad c = 6\sqrt{10} \quad h = 0 \quad k = 0$

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

$\frac{(x-0)^2}{6^2} - \frac{(y-0)^2}{18^2} = 1$

$\frac{x^2}{36} - \frac{y^2}{324} = 1$

$y = \frac{3}{1}x + 0$

$y = \frac{-3}{1}x + 0$

