

Write the standard form of the equation, find the indicated values and graph:

4.)  $9x^2 - 54x - 25y^2 - 50y - 169 = 0$

$9(x^2 - 6x + 9) - 25(y^2 + 2y + 1) = 169$

$\frac{9(x-3)^2}{225} - \frac{25(y+1)^2}{225} = \frac{225}{225}$  +81  
-25

Center:  $(3, -1)$

$\frac{(x-3)^2}{25} - \frac{(y+1)^2}{9} = 1$

Lines Containing Axes:

$x = 3$  Conjugate  
 $y = -1$  Transverse

Vertices:

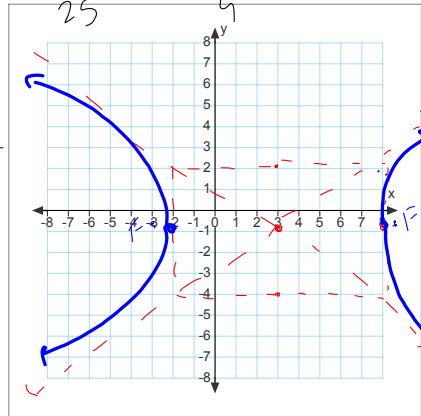
$(-2, -1), (8, -1)$   $(3 \pm \sqrt{34}, -1)$

Foci:

$c^2 = a^2 + b^2$   
 $c^2 = 34$   $(c = \sqrt{34}, -1)$   $(3 \pm \sqrt{34}, -1)$

Equations of Asymptotes:

$y = -1 \pm \frac{3}{5}(x-3)$   
          ↓                          ↓  
          k                          h

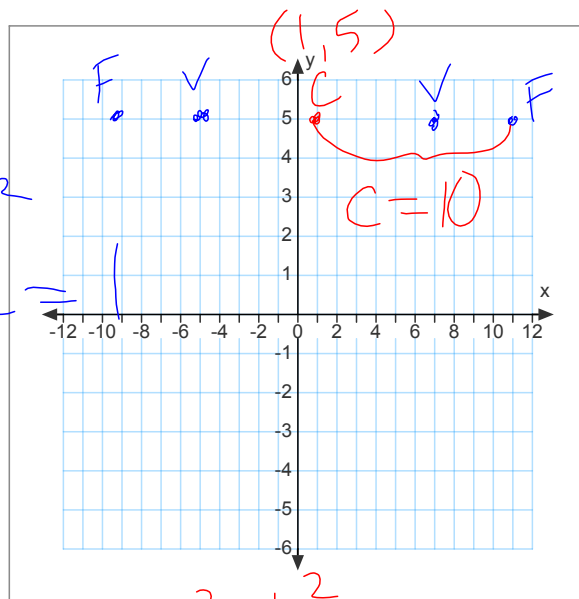


Write the standard form of the equation with the given information.

5.) vertices:  $(7, 5)$  and  $(-5, 5)$

foci:  $(11, 5)$  and  $(-9, 5)$

$\frac{(x-1)^2}{36} - \frac{(y-5)^2}{64} = 1$



$c^2 = a^2 + b^2$   
 $100 = 36 + b^2$

