

# CONIC SECTIONS REVIEW

Circles  $(x+7)^2 + (y-5)^2 = 48$

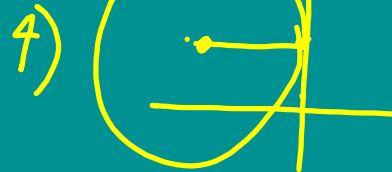
Center:  $(-7, 5)$

$$\sqrt{r^2} = \sqrt{48}$$

$$r = 4\sqrt{3}$$



3)  $r =$  distance formula



$$x = -\frac{1}{12}(y+2)^2 + 4$$

Vertex:  $(4, -2)$

Left

Line of  
Symm.

$$y = -2$$

focus  $(4 + \frac{1}{4a}, -2)$

$$(4 + \frac{1}{\frac{-1}{12}}, -2)$$

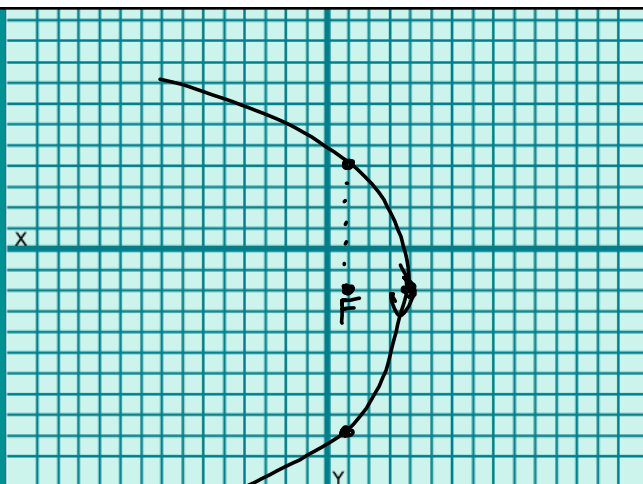
$$(4 + \frac{1}{-\frac{1}{3}}, -2)$$

$$(4 + 1 \cdot -3, -2)$$

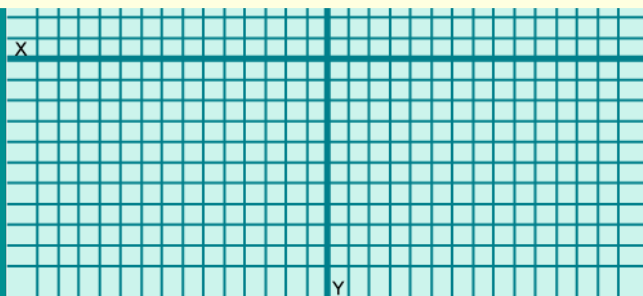
$$(4 - 3, -2)$$

$$(1, -2)$$

Latus  $|\frac{1}{a}| = |\frac{1}{-\frac{1}{12}}| = 12$



- 1) Plot vertex
- 2) Plot focus
- 3) Put  $\frac{1}{2}$  of latus on each side of focus



Like  
#12

$$4x^2 - 9y^2 - 8x + 36y - 68 = 0$$

$$4x^2 - 8x - 9y^2 + 36y = 68$$

$$4(x^2 - 2x + 1) - 9(y^2 - 4y + 4) = 68 + 4 - 36$$

$$\frac{4(x-1)^2}{36} - \frac{4(y-2)^2}{36} = \frac{36}{36}$$

$$\frac{(x-1)^2}{9} - \frac{(y-2)^2}{9}$$

Horiz. x first

x

y

x

y

Like #12