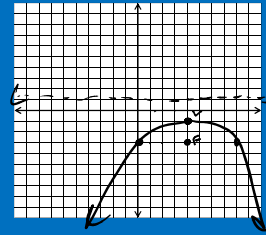


Graph the parabola:

$$(x-4)^2 = -8(y+1)$$

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Write the equation of the conic in Standard form:

$$3x^2 + 5y^2 + 12x - 10y + 2 = 0$$

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$$3x^2 + 5y^2 + 12x - 10y + 2 = 0$$

$$3x^2 + 12x + 5y^2 - 10y = -2$$

$$3(x^2 + 4x + 4) + 5(y^2 - 2y + 1) = -2 + 12 + 5$$

$$3(x+2)^2 + 5(y-1)^2 = 15$$

$$\frac{(x+2)^2}{5} + \frac{(y-1)^2}{3} = 1$$

Write the equation of the conic in parametric form:

$$\frac{(x-4)^2}{16} - \frac{(y+1)^2}{36} = 1$$

Write the equation of the conic in parametric form:

$$\frac{(x-4)^2}{16} - \frac{(y+1)^2}{36} = 1$$

$$x = 4 + 4 \sec t$$

$$y = -1 + 6 \tan t$$

Find the coordinates of the Focal points of the shape:

$$\frac{(x-4)^2}{16} - \frac{(y+1)^2}{4} = 1$$

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$$\frac{(x-4)^2}{16} - \frac{(y+1)^2}{4} = 1$$

$$c^2 = 16 + 4$$

$$c^2 = 20$$

$$c = \sqrt{20} = 2\sqrt{5}$$

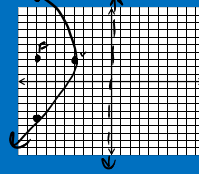
$$(4 + 2\sqrt{5}, -1), (4 - 2\sqrt{5}, -1)$$

Graph the parabola:

$$(y-3)^2 = -16(x+4)$$

Graph the parabola:

$$(y-3)^2 = -16(x+4)$$



opens left
vertex: (-4, 3)
4p = -16
p = -4
FW = 16

Write the equation of an hyperbola that has foci at (0,6) and (0,-6) and the length of the transverse axis is 8.

Write the equation of an hyperbola that has foci at (0,6) and (0,-6) and the length of the transverse axis is 8.

$$c = 6 \quad a = 4 \quad b = ??$$

$$36 = 16 + b^2$$

$$b^2 = 20$$

$$\frac{y^2}{16} - \frac{x^2}{20} = 1$$

Write the parametric equations of the conic section:

$$\frac{(y+3)^2}{4} - \frac{(x+1)^2}{9} = 1$$

Write the parametric equations of the conic section:

$$\frac{(y+3)^2}{4} - \frac{(x+1)^2}{9} = 1$$

hyperbola

$$x = -1 + 3 \tan t$$

$$y = -3 + 2 \sec t$$

Write the equation of the conic section in standard form:

$$5y^2 - 6x^2 + 12x + 20y + 44 = 0$$

Write the equation of the conic section in standard form:

$$5y^2 - 6x^2 + 12x + 20y + 44 = 0$$

$$5y^2 + 20y - 6x^2 + 12x = -44$$

$$5(y^2 + 4y + 4) - 6(x^2 - 2x + 1) = -44 + 20 + 6$$

$$5(y+2)^2 - 6(x-1)^2 = -30$$

$$\frac{(x-1)^2}{5} - \frac{(y+2)^2}{6} = 1$$

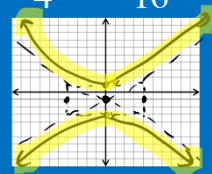
Graph the hyperbola:

$$\frac{(y+1)^2}{4} - \frac{x^2}{16} = 1$$

Graph the hyperbola:

vertical → $\frac{(y+1)^2}{4} - \frac{x^2}{16} = 1$

center: (0, -1)
a = 2
b = 4



Write the conic section in standard form:

$$y^2 - 8y - 8x = -24$$

Write the conic section in standard form:

$$y^2 - 8y - 8x = -24$$

$$y^2 - 8y = 8x - 24$$

$$y^2 - 8y + \underline{16} = 8x - 24 + \underline{16}$$

$$(y-4)^2 = 8x - 8$$

$$\boxed{(y-4)^2 = 8(x-1)}$$

Write the parametric equations for the conic section:

$$\frac{(x+1)^2}{64} - \frac{(y-11)^2}{36} = 1$$

Write the parametric equations for the conic section:

$$\frac{(x+1)^2}{64} - \frac{(y-11)^2}{36} = 1$$

center: (-1, 11)

$$\boxed{\begin{aligned} x &= -1 + 8 \sec t \\ y &= 11 + 6 \tan t \end{aligned}}$$

Find the coordinates of the foci of the conic section:

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

Find the coordinates of the foci of the conic section:

horizontal!

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

center: (4, -2)

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

$$c^2 = 4 + 36$$

$$c^2 = 40$$

$$c = 2\sqrt{10}$$

$$\boxed{\begin{aligned} \text{foci: } &(4 + 2\sqrt{10}, -2) \\ &(4 - 2\sqrt{10}, -2) \end{aligned}}$$

Graph the hyperbola:

$$\frac{(x-3)^2}{36} - \frac{y^2}{4} = 1$$

Graph the hyperbola:

horizontal $\frac{(x-3)^2}{36} - \frac{y^2}{4} = 1$ center: (3,0)
 $a=6$
 $b=2$

Write the equation of a parabola that has a directrix at $x = 4$ and the vertex is at the point $(0, 6)$.

Write the equation of a parabola that has a directrix at $x = 4$ and the vertex is at the point $(0, 6)$.

$p = 4$
 $4p = 16$

$$(y-6)^2 = -16x$$

Write the equation of a hyperbola that has endpoints of the transverse axis at $(-4, 3)$ and $(-4, 7)$ and the foci are at $(-4, 1)$ and $(-4, 9)$.

Write the equation of a hyperbola that has endpoints of the transverse axis at $(-4, 3)$ and $(-4, 7)$ and the foci are at $(-4, 1)$ and $(-4, 9)$.

center: $(-4, 5)$

$$\frac{(y-5)^2}{4} - \frac{(x+4)^2}{12} = 1$$

$a = 2$
 $c = 4$
 $16 = 4 + b^2$
 $b^2 = 12$

Write the parametric equations of the conic section:

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

Write the parametric equations of the conic section:

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

$$x = 4 + 2t$$

$$y = -1 + t^2$$