

d. $y^2 + 4x = 0$
 $-4x -4x$



$y^2 = -4x$

v: (0,0)

axis: $y = 0$

$\frac{4p}{4} = \frac{-4}{4}$

$p = -1$

f: (-1,0)

directrix: $x = 1$

e. $x^2 = 9y$

v: (0,0)

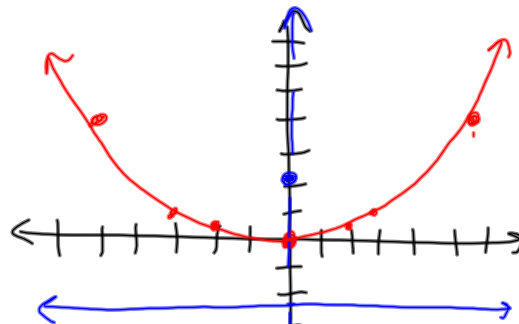
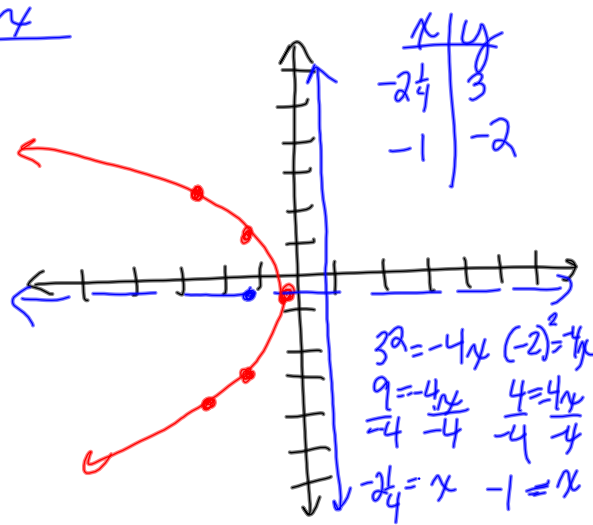
axis: $x = 0$

$\frac{4p}{4} = \frac{9}{4}$

$p = \frac{9}{4}$

focus: $(0, \frac{9}{4})$

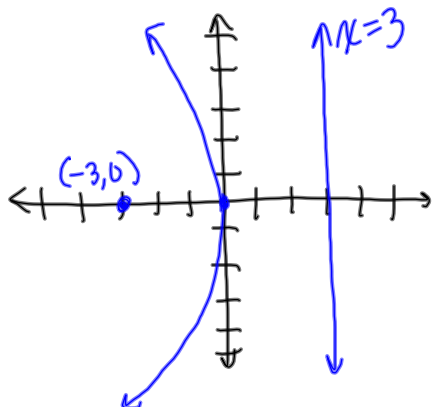
directrix: $y = -\frac{9}{4}$



x	y
2	1/4
6	4
3	1

$2^2 = 9y \quad 6^2 = 9y$
 $\frac{4}{9} = \frac{9y}{9} \quad \frac{36}{9} = \frac{9y}{9}$
 $\frac{4}{9} = y \quad 4 = y$

Write an equation of the parabola shown.



$y^2 = 4px$

$p = -3$

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

$y^2 = -12x$

Write the standard form of the equation of the parabola with vertex at $(0,0)$.

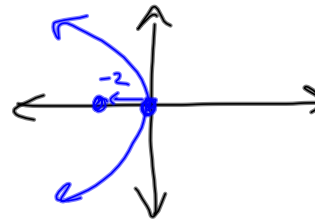
a. Focus : $(-2,0)$

$$y^2 = 4px$$

$$p = -2$$

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

$$y^2 = -8x$$

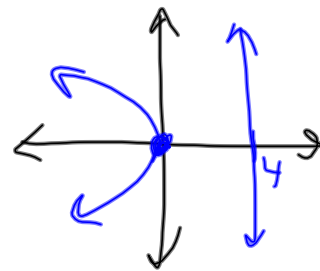


b. Directrix : $x = 4$

$$y^2 = 4px \quad p = -4$$

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

$$y^2 = -16x$$

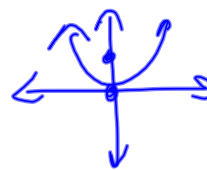


c. Focus : $(0,3)$

$$x^2 = 4py$$

$$x^2 = 4(3)y$$

$$x^2 = 12y$$



p. 499

(13, 25, 27, 33,
35, 39, 43, 47, 55)

$P: (1, \boxed{y}), (-1, 3) \quad d = 2\sqrt{10}$

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

$$a^2 + 2^2 = (2\sqrt{10})^2$$

$$a^2 + 4 = 40$$

$$\begin{array}{r} -4 \quad -4 \\ \hline a^2 = 36 \\ a = \pm 6 \end{array}$$

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$(2\sqrt{10})^2 = \left(\sqrt{(-1-1)^2 + (y-3)^2} \right)^2$$

$$4 \cdot 10 = (-1-1)^2 + (y-3)^2$$

$$40 = (-2)^2 + (y-3)^2$$

$$40 = 4 + (y-3)^2$$

$$\begin{array}{r} -4 \quad -4 \\ \hline 36 = (y-3)^2 \end{array}$$

$$36 = (y-3)^2$$

$$\pm\sqrt{36} = \sqrt{(y-3)^2}$$

$$\pm 6 = y - 3$$

$$\begin{array}{r} +3 \quad +3 \\ \hline 3 \pm 6 = y \end{array}$$

$$3 \pm 6 = y$$

$$3 + 6 = 9$$

$$3 - 6 = -3$$

$$\boxed{y = 9, -3}$$