

## 4.3 Parabola Worksheet

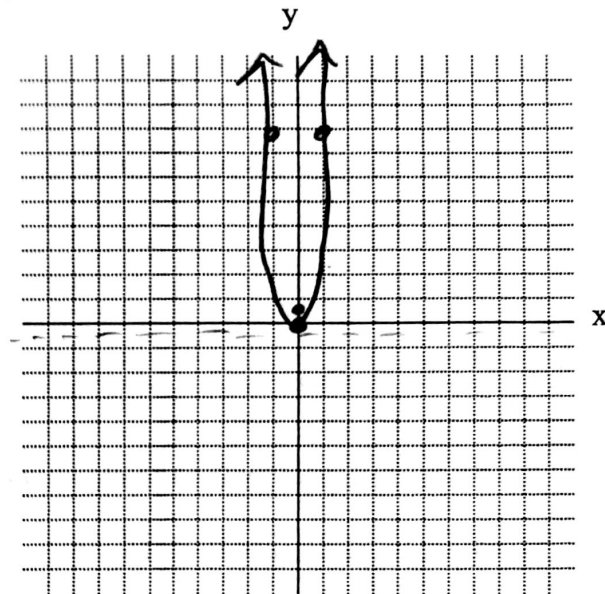
Graph the equation. Identify the focus and directrix of the parabola.

1.  $8x^2 = y$

$$F(0, \frac{1}{32})$$

$$D y = -\frac{1}{32}$$

$$V(0, 0)$$

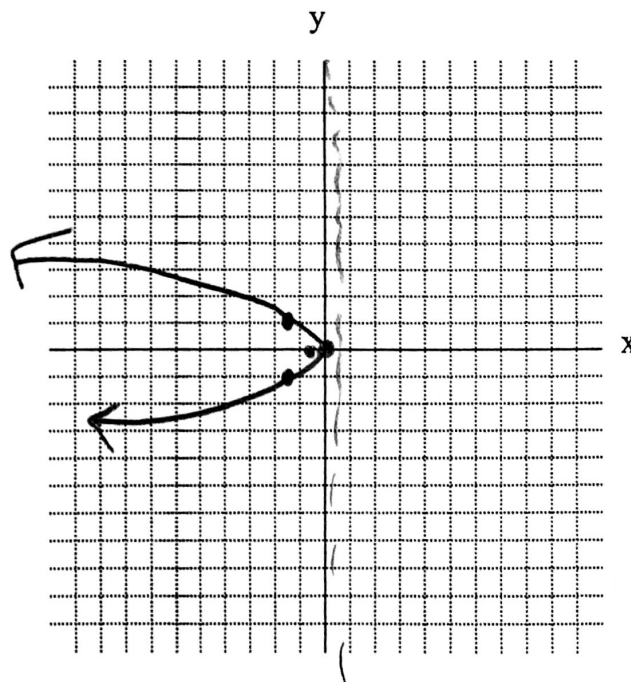


2.  $2x + 3y^2 = 0$

$$V(0, 0)$$

$$F(-\frac{1}{6}, 0)$$

$$D x = \frac{1}{6}$$



Write the standard form of the equation of the parabola with the given focus and the vertex at (0,0)

3. (8, 0)

$$y^2 = 32x$$

4. (-12, 0)

$$y^2 = -48x$$

5.  $(0, \frac{1}{2})$

$$x^2 = -2y$$

Write the standard form of the equation of the parabola with the given directrix and the vertex at (0,0)

6.  $x = 1$

$$y^2 = -4x$$

7.  $y = -6$

$$x^2 = 24y$$

8.  $y = \frac{1}{12}$

$$x^2 = -\frac{1}{3}y$$

Write an equation for the parabola

9. vertex (2, 2) and focus (2, 5)

$$(x-2)^2 = 12(y-2)$$

10. vertex at (3, -2) and focus (5, -2)

$$(y+2)^2 = 8(x-3)$$

11. vertex at (4, -1) and directrix at  $y = 1$

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

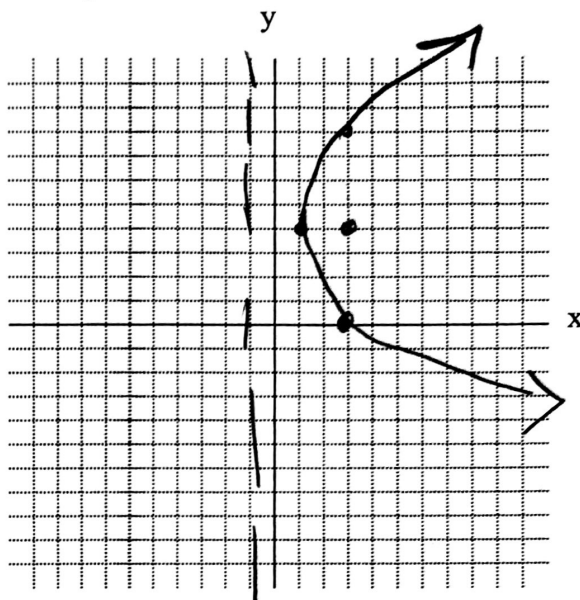
Graph the equation. Identify the focus and directrix of the parabola.

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

$F (3, 4)$

$D x = -1$

$V (1, 4)$



13.  $(x + 4)^2 = 16(y + 1)$

$V (-4, -1)$

$F (-4, 3)$

$D y = -5$

