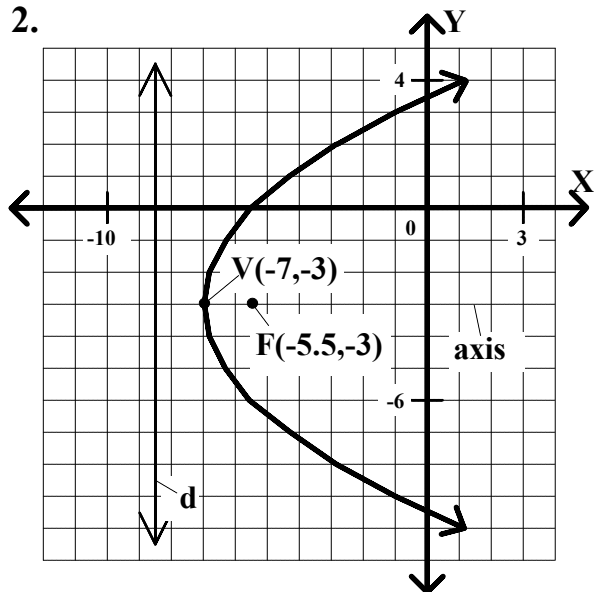


Algebra II Worksheet #6 Unit 7 Selected Solutions

Write the standard form equation and the general form equation for each of the following graphs. Show your work neatly organized.

2.



Type 2

$$x - h = a(y - k)^2$$

$$V(-7, -3) \quad p = 1.5$$

$$h = -7 \quad k = -3 \quad a = \frac{1}{4p} = \frac{1}{6}$$

$$x - -7 = \frac{1}{6} (y - -3)^2$$

standard form

$$x + 7 = \frac{1}{6} (y + 3)^2$$

$$6(x + 7) = (y + 3)^2$$

$$6x + 42 = y^2 + 6y + 9$$

$$0 = y^2 - 6x + 6y - 33$$

general form $y^2 - 6x + 6y - 33 = 0$

Express each equation in standard form and sketch a graph. Show your work neatly organized.

4. $16x^2 - 9y^2 + 64x + 18y - 89 = 0$ **hyperbola**

$$16(x^2 + 4x + 4) - 9(y^2 - 2y + 1) = 89 + 64 - 9$$

$$16(x + 2)^2 - 9(y - 1)^2 = 144$$

Standard form

$$\frac{(x + 2)^2}{9} - \frac{(y - 1)^2}{16} = 1$$

Type 1

$$\frac{(x - h)^2}{a^2} - \frac{(y - k)^2}{b^2} = 1$$

$$h = -2 \quad k = 1 \quad \text{center } (-2, 1)$$

$$a = 3 \quad b = 4 \quad c^2 = 25$$

$$c = 5$$

