

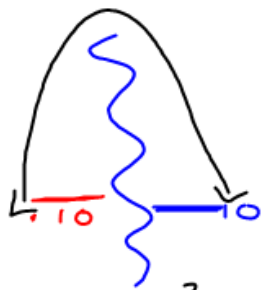
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$$R = -15p^2 + 300p + 12,000$$

$$\begin{array}{l} \text{Price} \\ \text{Rev.} \end{array} X = \frac{-b}{2a} = \frac{-300}{2(-15)} = \frac{-300}{-30} = 10$$

 $(10, 13,500)$

X	Y
-10	0
0	10
10	0



$$y = ax^2 + bx + c$$

$$y = ax^2 + bx + 10$$

$$-\frac{b}{2a}$$

$$\textcircled{1} \quad 0 = a(-10)^2 + b(-10) + 10$$

$$0 = 100a - 10b + 10$$

$$\textcircled{2} \quad 0 = 100a + 10b + 10$$

$$\textcircled{1} \quad \begin{array}{l} \text{h} \quad \text{k} \\ \text{V: } (2, 3) \\ \text{y: } (0, -1) \\ \quad \text{x} \quad \text{y} \end{array}$$

$$\textcircled{1} \quad \begin{array}{l} x = -\frac{b}{2a} \\ 2 = -\frac{b}{2a} \end{array}$$

$$\textcircled{2} \quad \begin{array}{l} y = a(x-h)^2 + k \\ -1 = a(0-2)^2 + 3 \\ -1 = 4a + 3 \\ -4 = 4a \end{array}$$

$$\boxed{a = -1}$$

$$\text{(vertex)} \quad y = -1(x-2)^2 + 3$$

$$y = -1(x-2)(x-2) + 3$$

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

$$\boxed{y = -x^2 + 4x - 1}$$