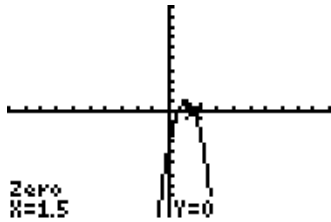
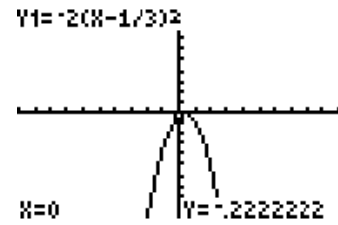
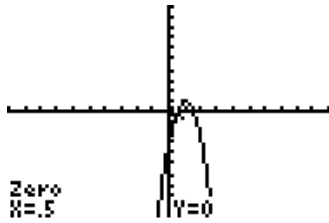


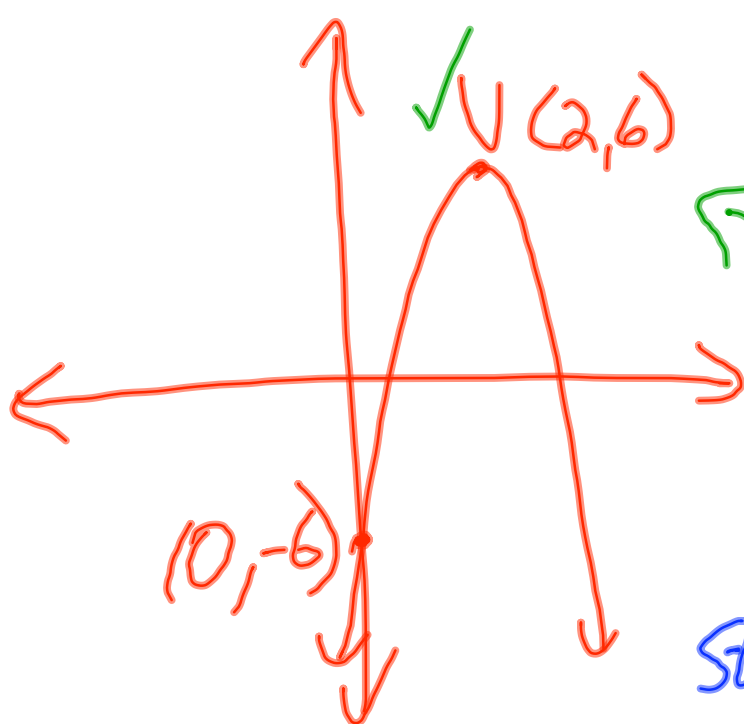
$$y = -4(x-1)^2 + 1$$

$$y = x^2$$

$$y = -2\left(x - \frac{1}{3}\right)^2$$



!



Find the equation
of the parabola

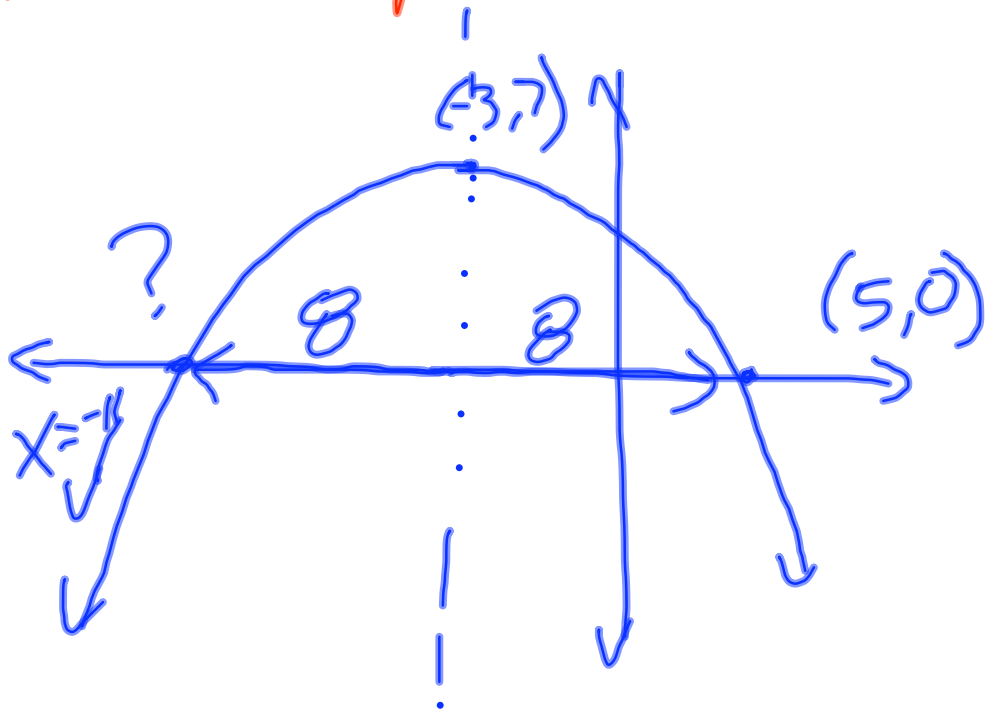
$$y = a(x-p)^2 + q$$

Standard form

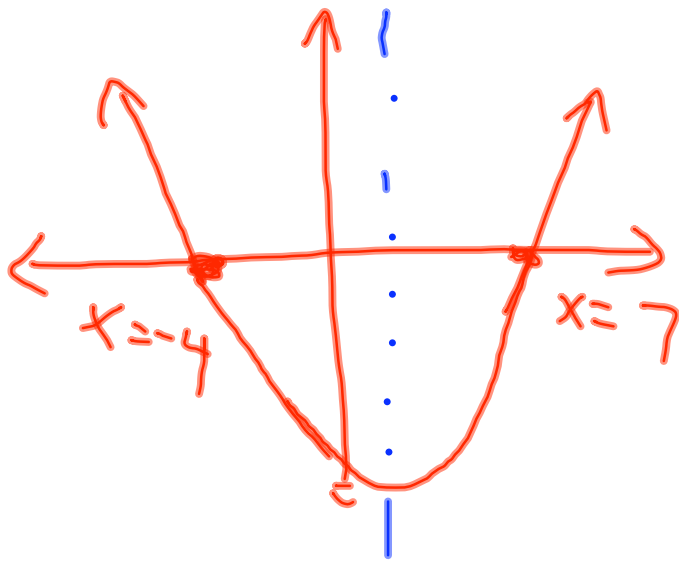
$$\begin{aligned} -6 &= a(0-2)^2 + 6 \\ -6 &= 4a + 6 \\ -12 &= 4a \\ -3 &= a \end{aligned}$$

$$\begin{aligned} y &= a(x-2)^2 + 6 \\ x=0 \quad y &= -6 \\ y &= -3(x-2)^2 + 6 \end{aligned}$$

One x intercept for a parabola is at $x = -5$. If the vertex is at $(-3, 7)$ then find the other x intercept.



The x intercepts of a parabola are at $x = -4$ & $x = 7$. Find the equation of axis of symmetry.



$$\frac{-4 + 7}{2} = \frac{3}{2} = 1.5$$

$$x = 1.5$$

The graph of $y = a(x-4)^2 + q$ passes through the point $(6, 6)$ and $(-2, 10)$. Determine where the vertex is located?

$$6 = a(6-4)^2 + q$$

$$6 = 4a + q$$

$$-10 = a(-2-4)^2 + q$$

$$-10 = 36a + q$$

$$6 = 4a + q$$

$$\hline -16 = 32a$$

$$\frac{-16}{32} = a \quad a = -0.5$$

$$6 = 4(-0.5) + q$$

$$6 = -2 + q$$

$$8 = q$$

$$V(4, 8)$$