

Writing the Equation of a Parabola
in Vertex Form: $y = a(x-h)^2 + k$

$$y = \underline{a}(x-3)^2 + 4$$

$$-4 = a(5-3)^2 + 4$$

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

$$\begin{array}{r} -4 = 4a + 4 \\ -4 \quad \quad \quad -4 \\ \hline \end{array}$$

$$\begin{array}{r} -8 = 4a \\ \frac{-8}{4} = \frac{4a}{4} \end{array}$$

$$a = -2$$

answer:

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

