

Ex 1) Convert $y = x^2 + 10x + 1$ to vertex form.

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

Vertex
 $\begin{pmatrix} -5 & -24 \end{pmatrix}$
 $\begin{pmatrix} h & k \end{pmatrix}$

$$y = 1(x + 5)^2 - 24$$
$$y = (x + 5)^2 - 24$$

Quadratics in Vertex Form:

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

Vertex: (h, k)

Quadratics in Standard Form:

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

Vertex $x = \frac{-b}{2a}$