**Parabola/Quadratic Function**

$y = a\,(x-h)^2 + k \qquad f\,(x) = a(x-h)^2 + k$

The graph is a parabola that opens up if $a > 0$ or down if $a < 0$ and has a vertex at $(h, k)$.

**Parabola/Quadratic Function**

$y = ax^2 + bx + c \qquad f\,(x) = ax^2 + bx + c$

The graph is a parabola that opens up if $a > 0$ or down if $a < 0$ and has a vertex at $\left(-\frac{b}{2a}, f\left(-\frac{b}{2a}\right)\right)$.

**Parabola/Quadratic Function**

$x = ay^2 + by + c \qquad g\,(y) = ay^2 + by + c$

The graph is a parabola that opens right if $a > 0$ or left if $a < 0$ and has a vertex at $\left(g\left(-\frac{b}{2a}\right), -\frac{b}{2a}\right)$.