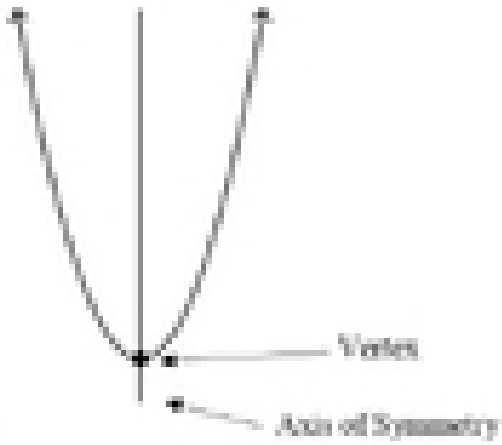
The Axis of Symmetry and Vertex Form of a Quadratic Function

Given: The vertex of a parabola is at the point $(5, -3)$.

Write the equation for the axis of symmetry.

Remember that the vertex of a parabola
is **on** the axis of symmetry.

So, the equation for the axis of symmetry is
$x =$ *The* $x-$*coordinate of the vertex.*



The vertex is at
the point $(5, -3)$.

The x-coordinate of the
vertex is 5.

The equation for the
axis of symmetry is $x = 5$.

Write the equation of the quadratic function in vertex form.

The vertex of the parabola allows us to identify the shift.
Therefore, we can write the equation in vertex form by using that shift.

The vertex is at the point $(5, -3)$.

This tells us that the parabola shifted
right 5 units and down 3 units.

So, the function in vertex form is
$y = (x - 5)^2 - 3$

Right 5 Down 3