

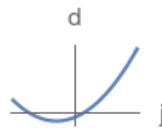
Plotting the Parabola

How to plot : $d(j) = aj^2 + bj + c$

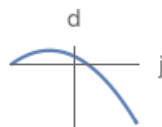
Step 1.

Examine the sign for the leading coefficient

If $a > 0$ then the valley shape:

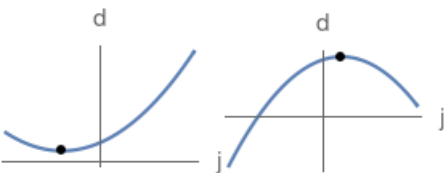


If $a < 0$ then the hill shape:



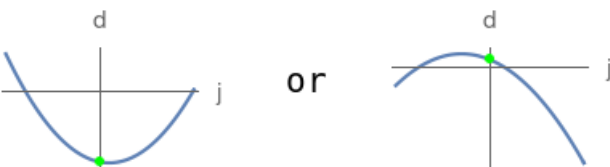
Step 2.

Compute the vertex: $(-\frac{b}{2a}, d(-\frac{b}{2a}))$



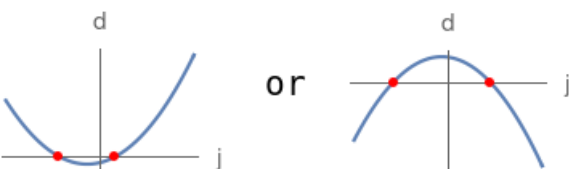
Step 3.

Compute the d-intercept by setting $j=0$, $0^2a + 0b + c = c$



Step 4.

Compute the j-intercepts by solving: $aj^2 + bj + c = 0$



Step 5.

Sketch a rough plot, try to connect vertex to intercepts:

Two coordinate systems side-by-side. The left one shows a parabola opening upwards with a black dot at the vertex and two red dots on the 'j' axis. The right one shows a parabola opening downwards with a black dot at the vertex and two red dots on the 'j' axis.