

Plotting the Parabola

How to plot : $m(w) = a w^2 + b w + c$

Step 1.

Examine the sign for the leading coefficient

If $a > 0$ then the valley shape:

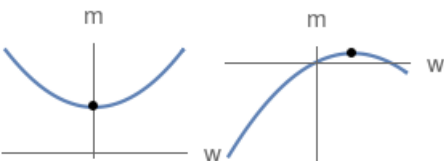


If $a < 0$ then the hill shape:



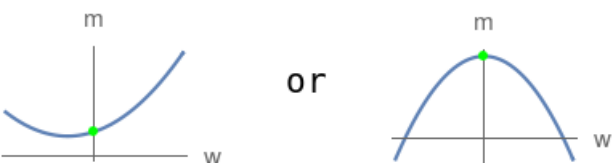
Step 2.

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



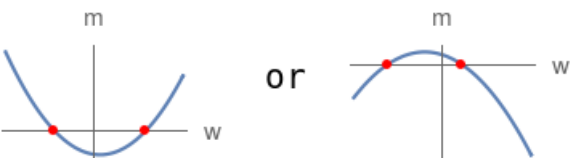
Step 3.

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



Step 4.

Compute the w-intercepts by solving: $a w^2 + b w + c = 0$



Step 5.

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

