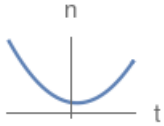
Plotting the Parabola

How to plot : $n(t) = a\,t^2 + b\,t + c$

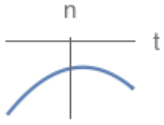
Step 1.

Examine the sign for the leading coefficent

If $a > 0$ then the valley shape:

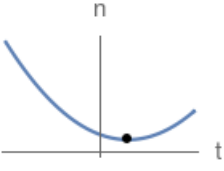


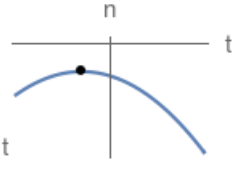
If $a < 0$ then the hill shape:



Step 2.

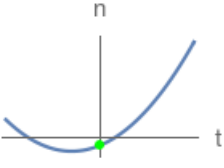
Compute the vertex: $(-\frac{b}{2a}, n(-\frac{b}{2a}))$



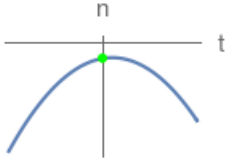


Step 3.

Compute the n-intercept by setting $t=0$, $0^2\,a + 0\,b + c = c$

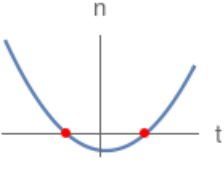


or

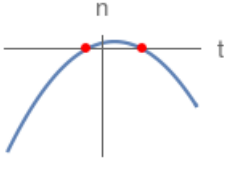


Step 4.

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

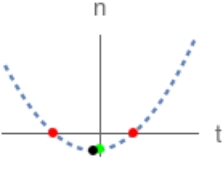


or



Step 5.

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



or