

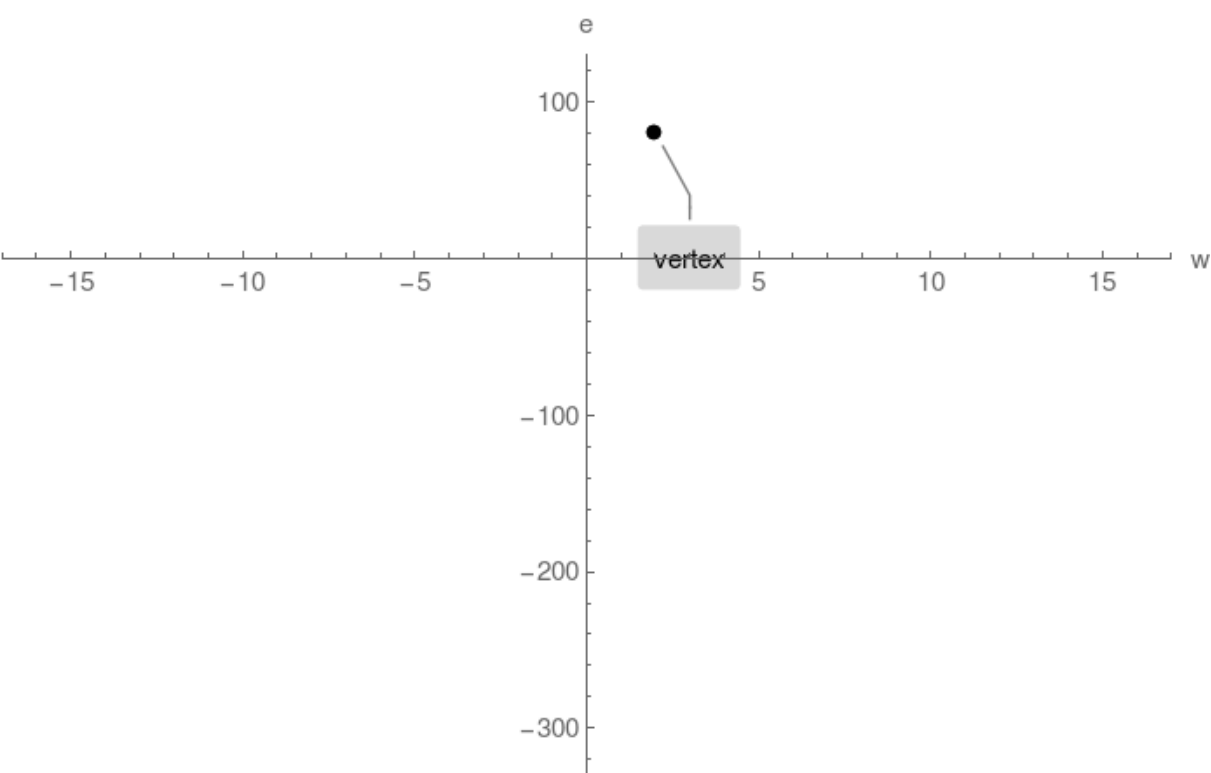
Example 1. 2 horizontal intercepts found

Plot $e(w) = -w^2 + 4w + 76$

Step 1.

Compute vertex and plot single point:

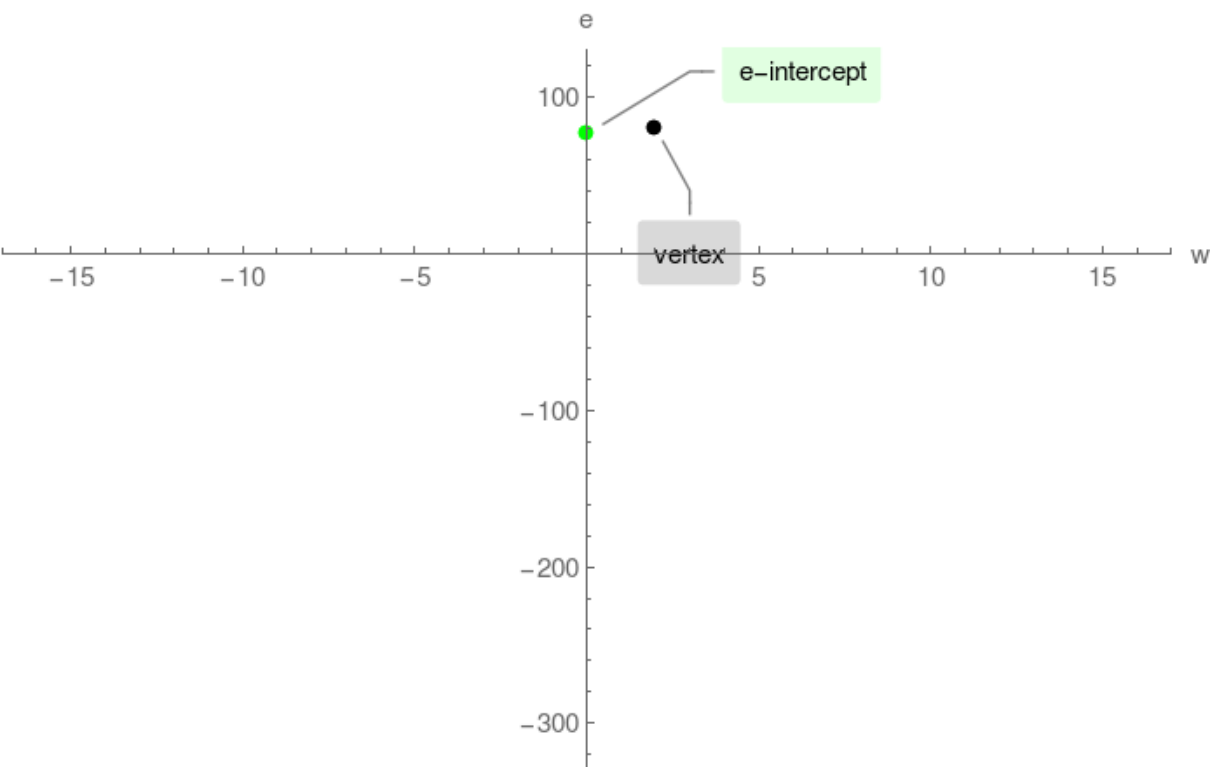
vertex = $(2, 80)$



Step 2.

Compute e-intercept and plot single point:

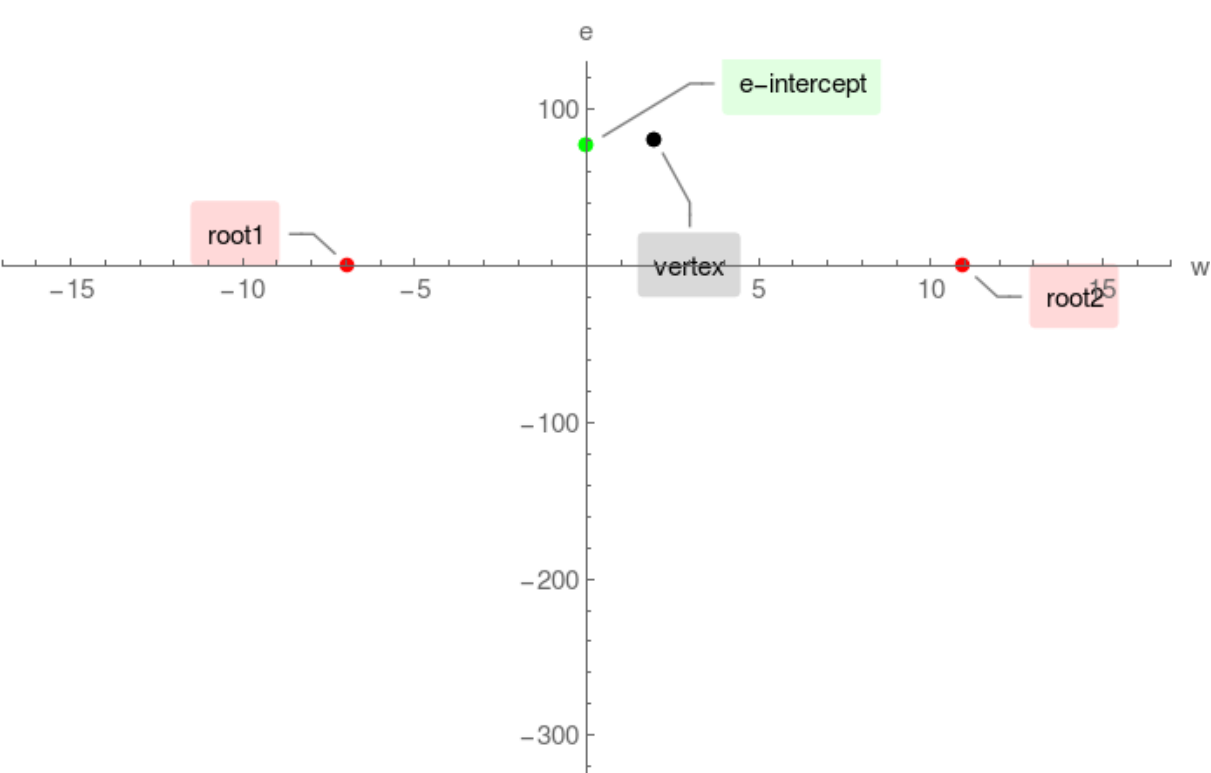
e-intercept = $(0, 76)$



Step 3.

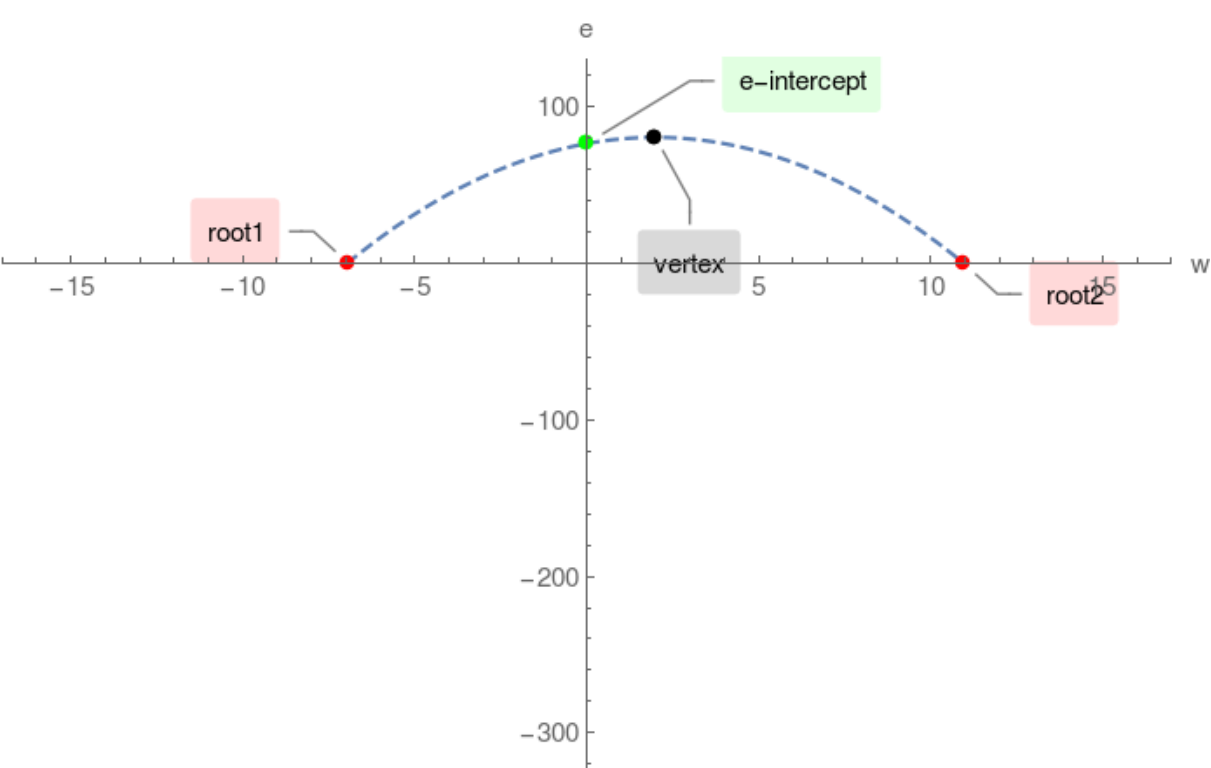
Compute w-intercepts by solving $-w^2 + 4w + 76 = 0$:

$(2 - 4\sqrt{5}, 0)$, $(2 + 4\sqrt{5}, 0)$



Step 4.

connect the above computed points:



Step 5.

Extend the parabola beyond the range of intercepts

