

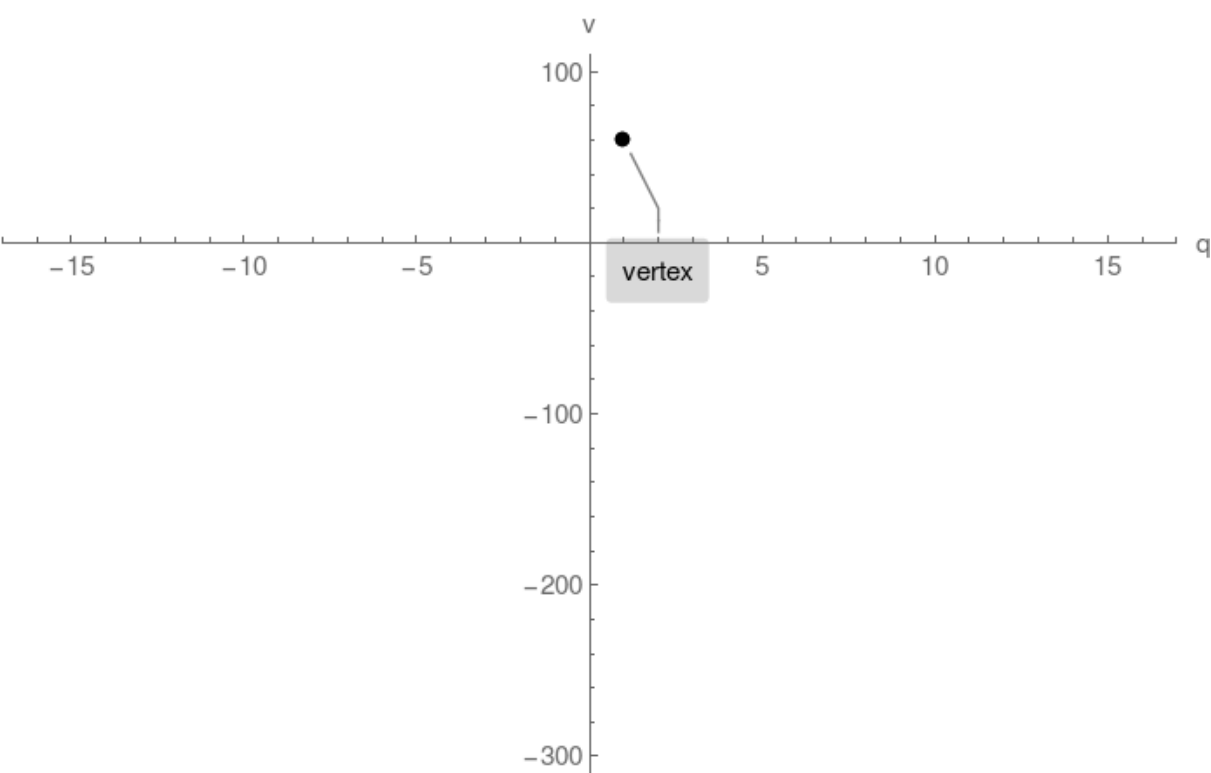
Example 1. 2 horizontal intercepts found

Plot $v(q) = -q^2 + 2q + 59$

Step 1.

Compute vertex and plot single point:

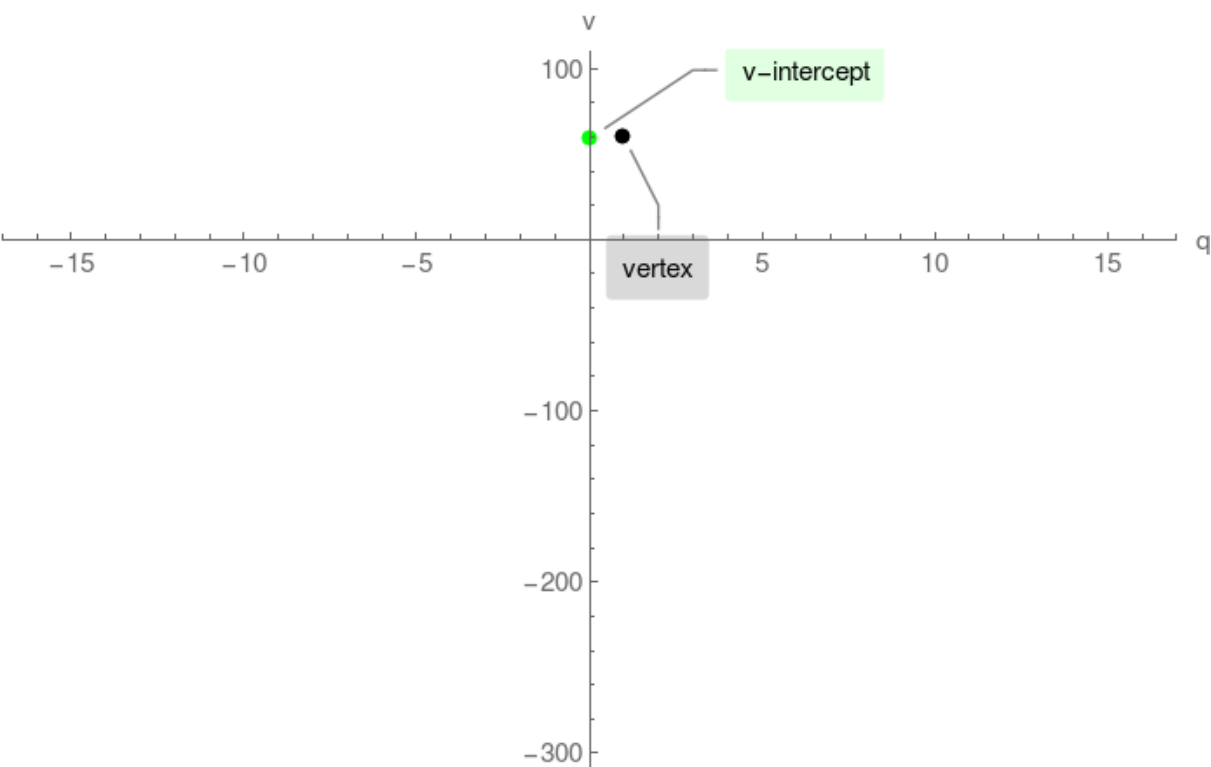
vertex = (1, 60)



Step 2.

Compute v-intercept and plot single point:

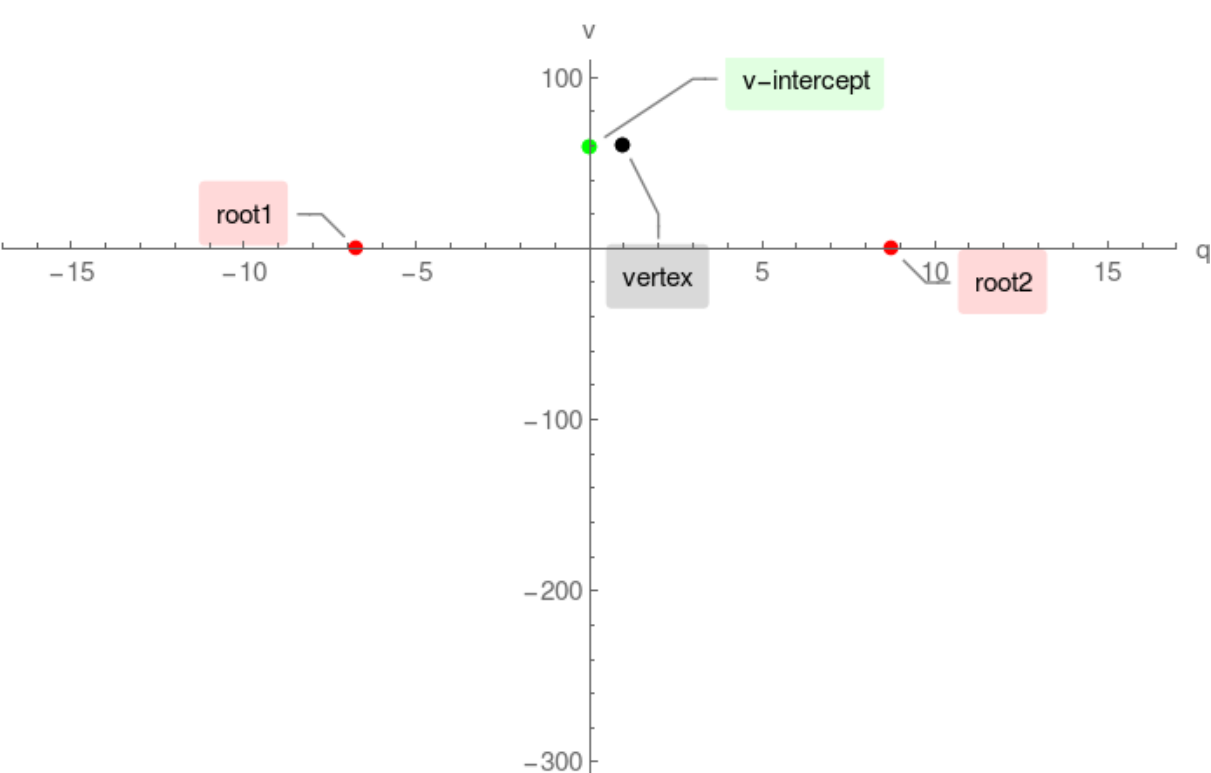
v-intercept = (0, 59)



Step 3.

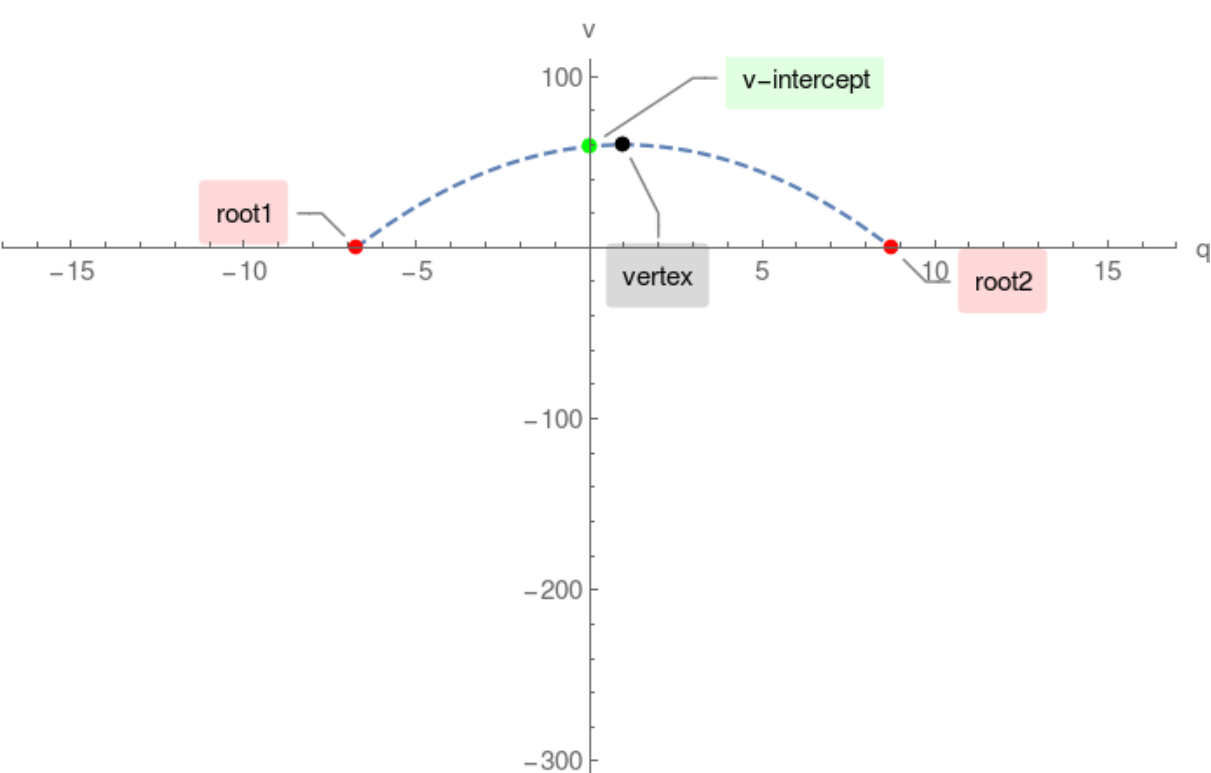
Compute q-intercepts by solving $-q^2 + 2q + 59 = 0$:

$(1 - 2\sqrt{15}, 0)$, $(1 + 2\sqrt{15}, 0)$



Step 4.

connect the above computed points:



Step 5.

Extend the parabola beyond the range of intercepts

