

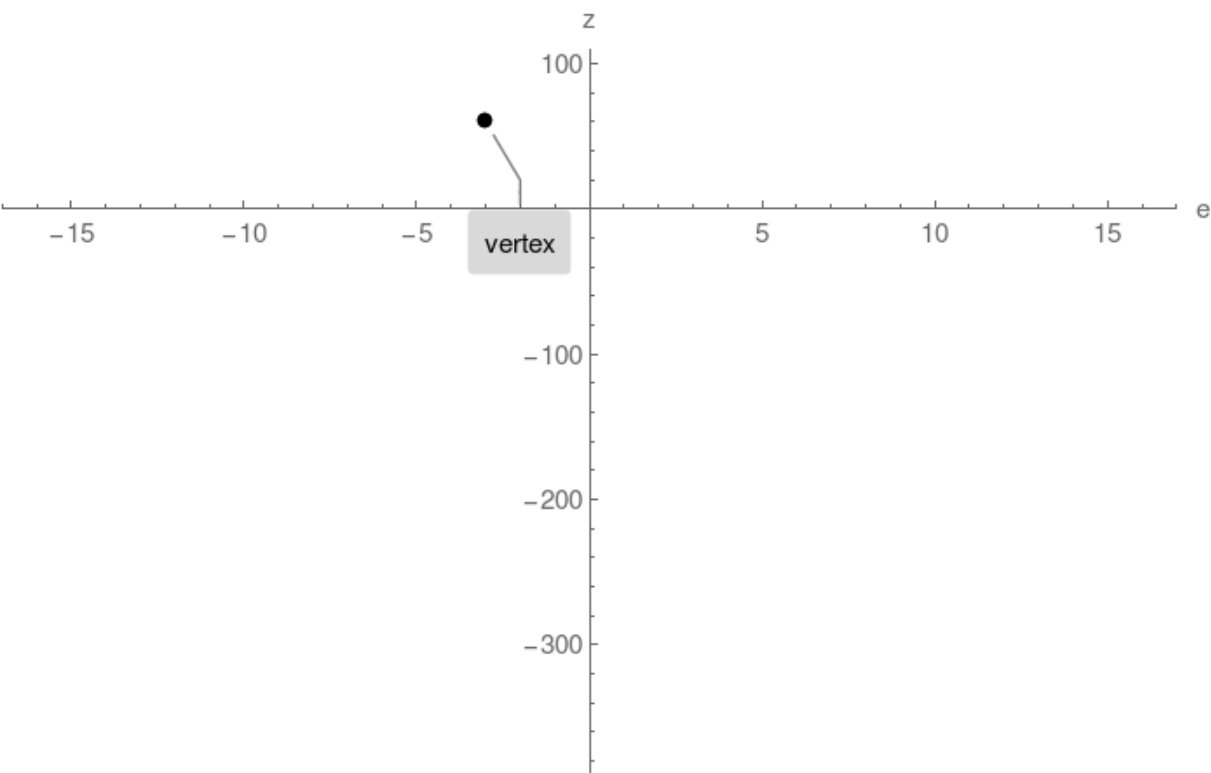
Example 1. 2 horizontal intercepts found

Plot $z(e) = -e^2 - 6e + 51$

Step 1.

Compute vertex and plot single point:

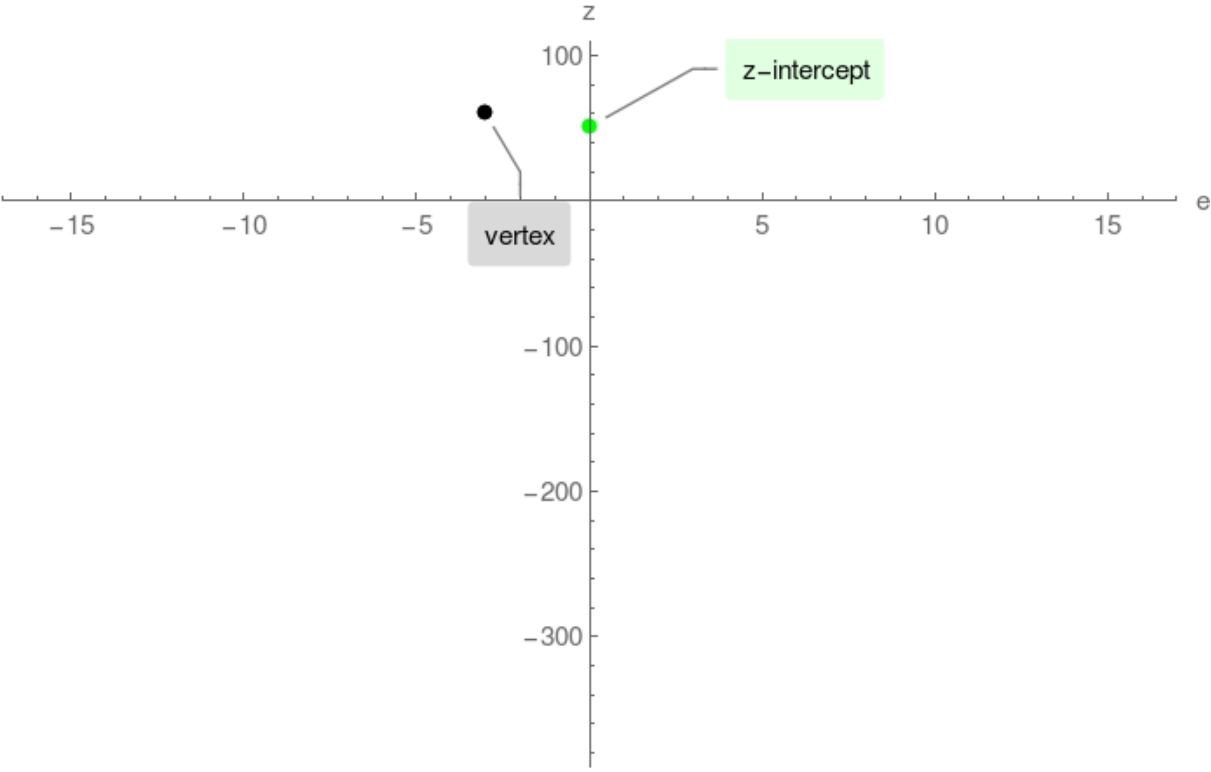
vertex = $(-3, 60)$



Step 2.

Compute z-intercept and plot single point:

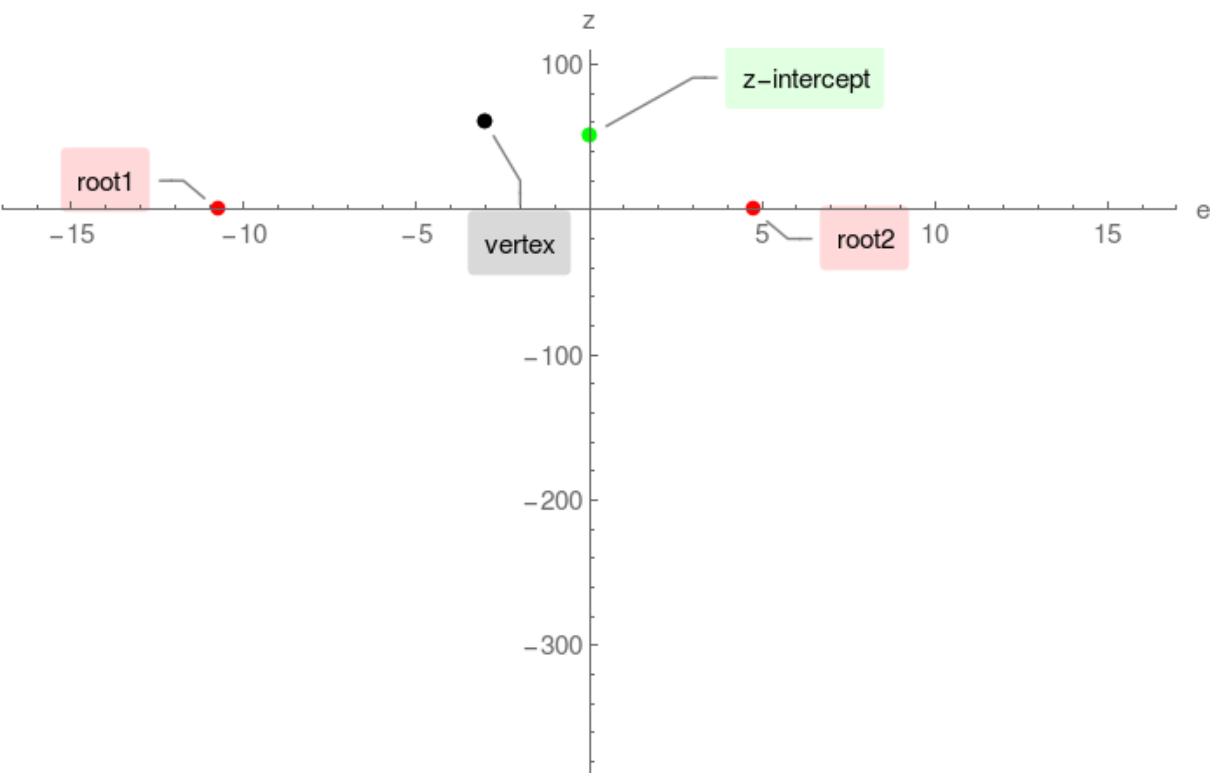
z-intercept = $(0, 51)$



Step 3.

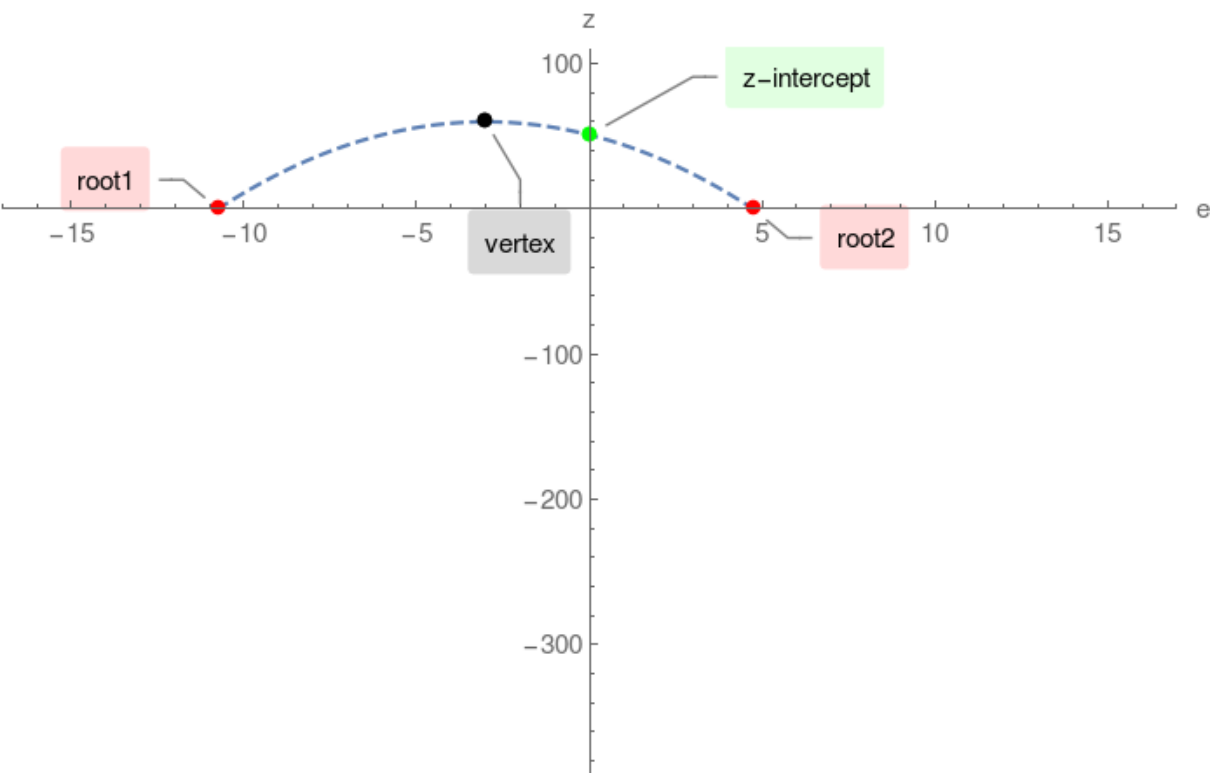
Compute e-intercepts by solving $-e^2 - 6e + 51 = 0$:

$(-3 - 2\sqrt{15}, 0)$, $(-3 + 2\sqrt{15}, 0)$



Step 4.

connect the above computed points:



Step 5.

Extend the parabola beyond the range of intercepts

