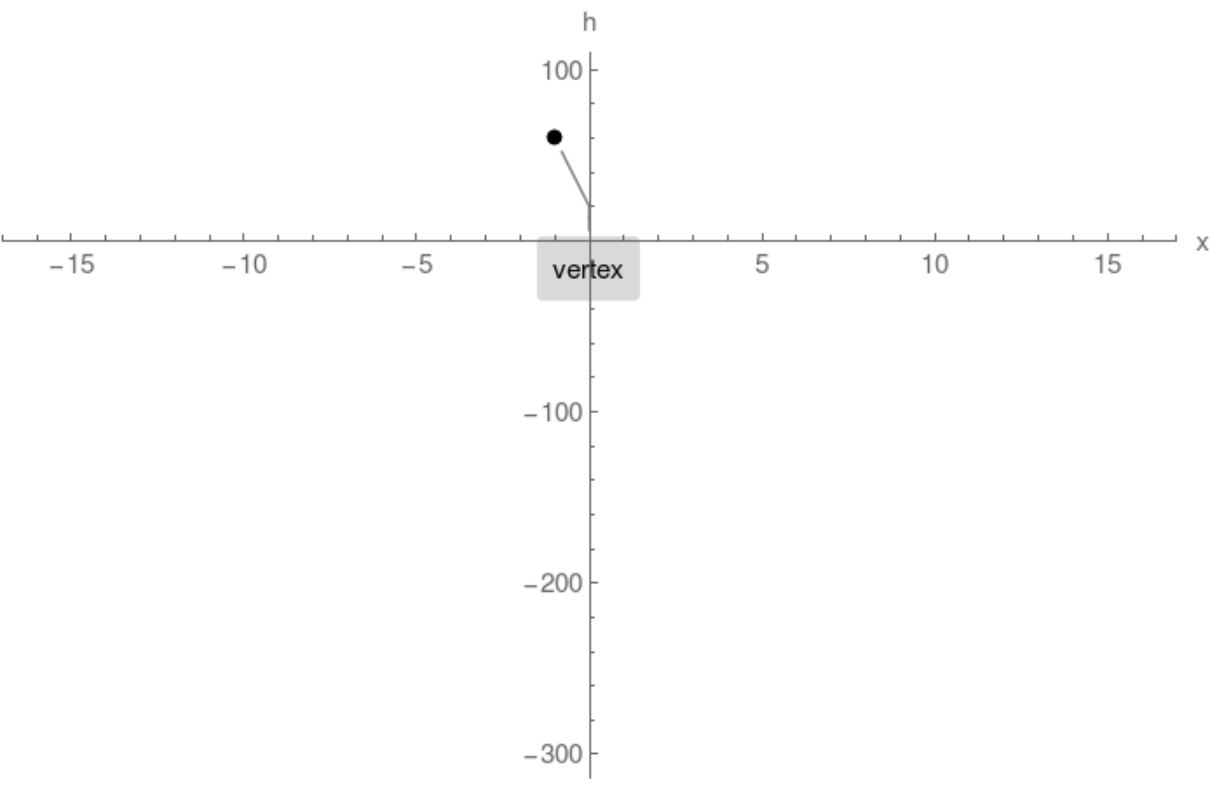
Example 1. 2 horizontal intercepts found

Plot $h(x) = -x^2 - 2x + 59$

Step 1.

Compute vertex and plot single point:

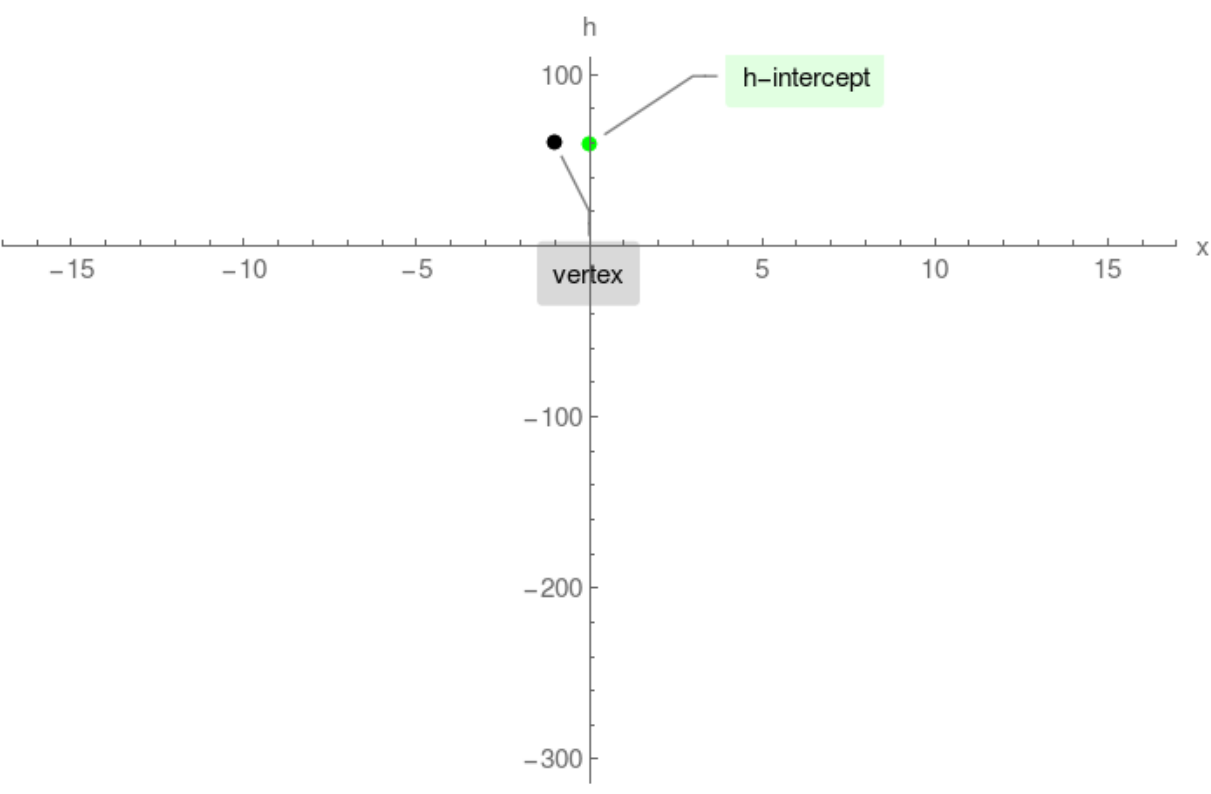
vertex $= (-1, 60)$



Step 2.

Compute h−intercept and plot single point:

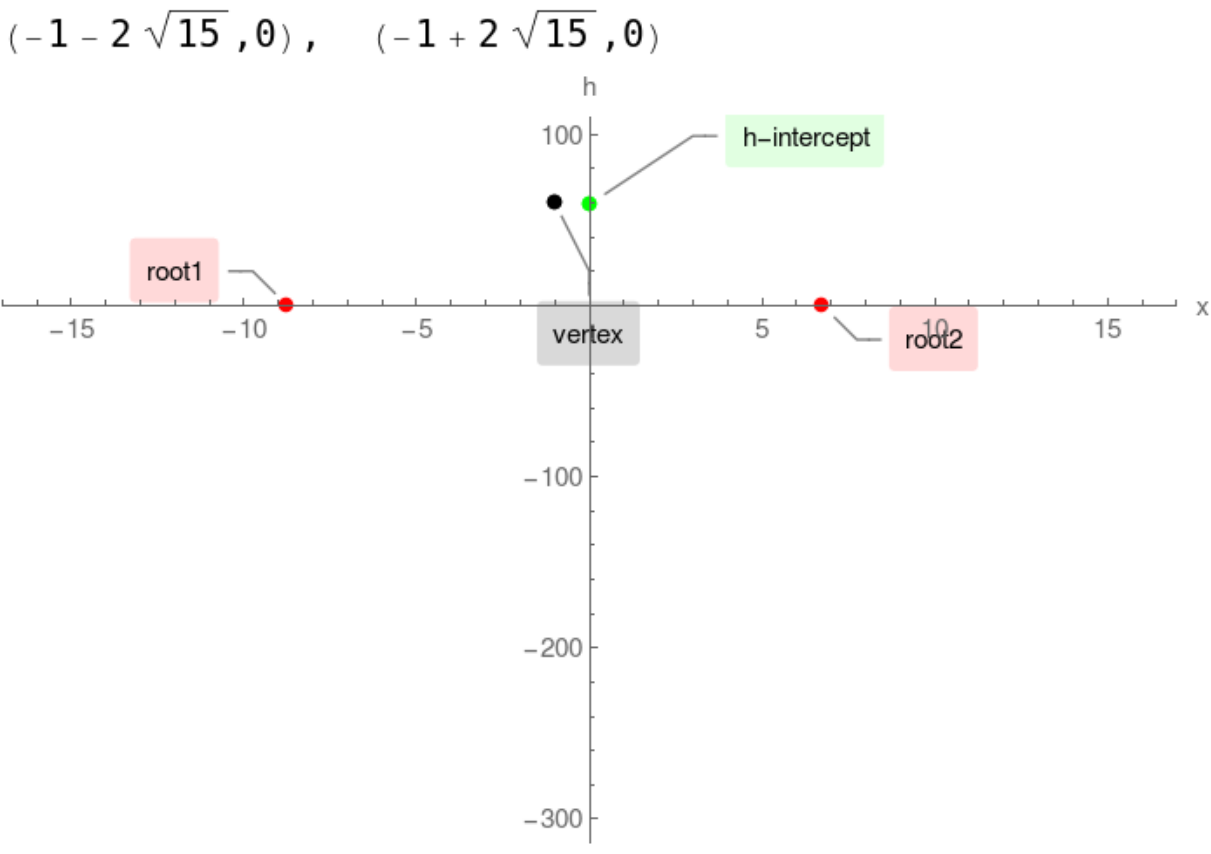
h−intercept $= (0, 59)$



Step 3.

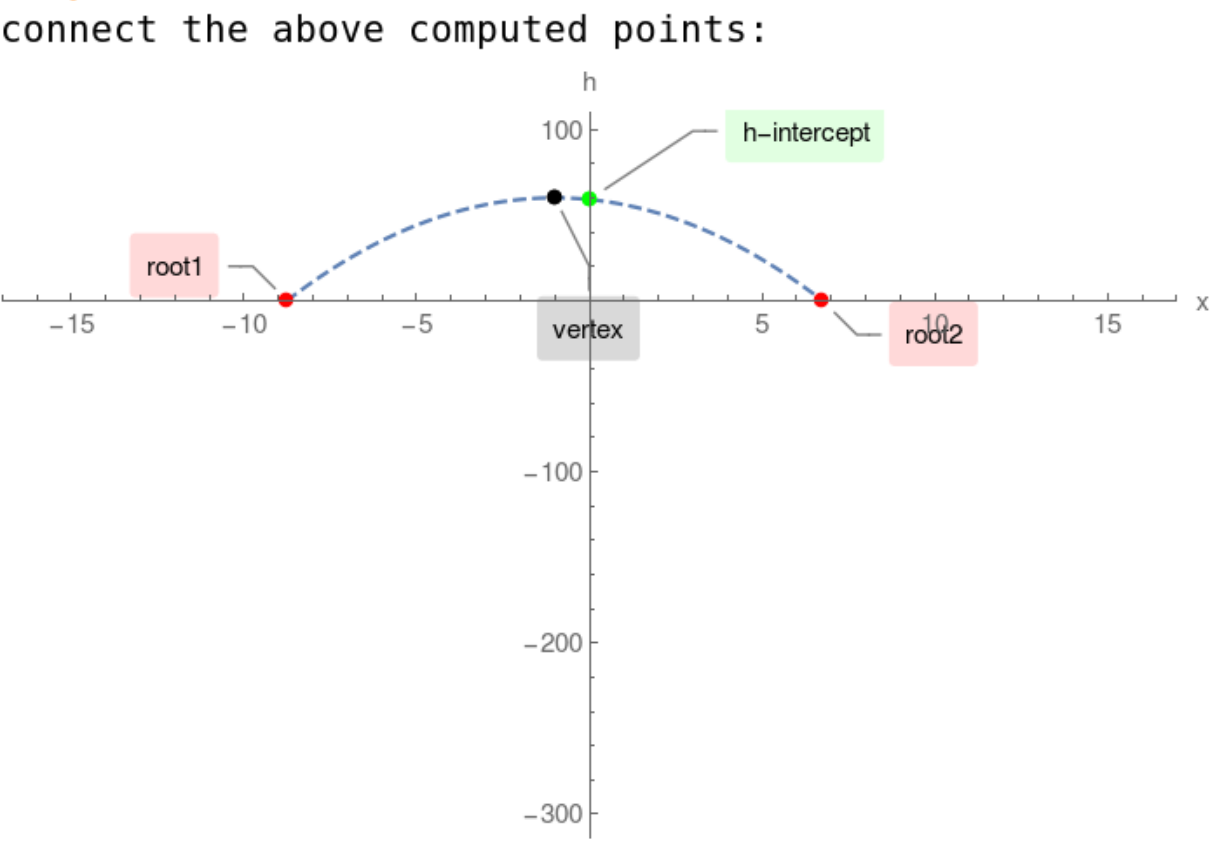
Compute x−intercepts by solving $-x^2 - 2x + 59 = 0$:

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



Step 4.

connect the above computed points:



Step 5.

Extend the parabola beyond the range of intercepts