

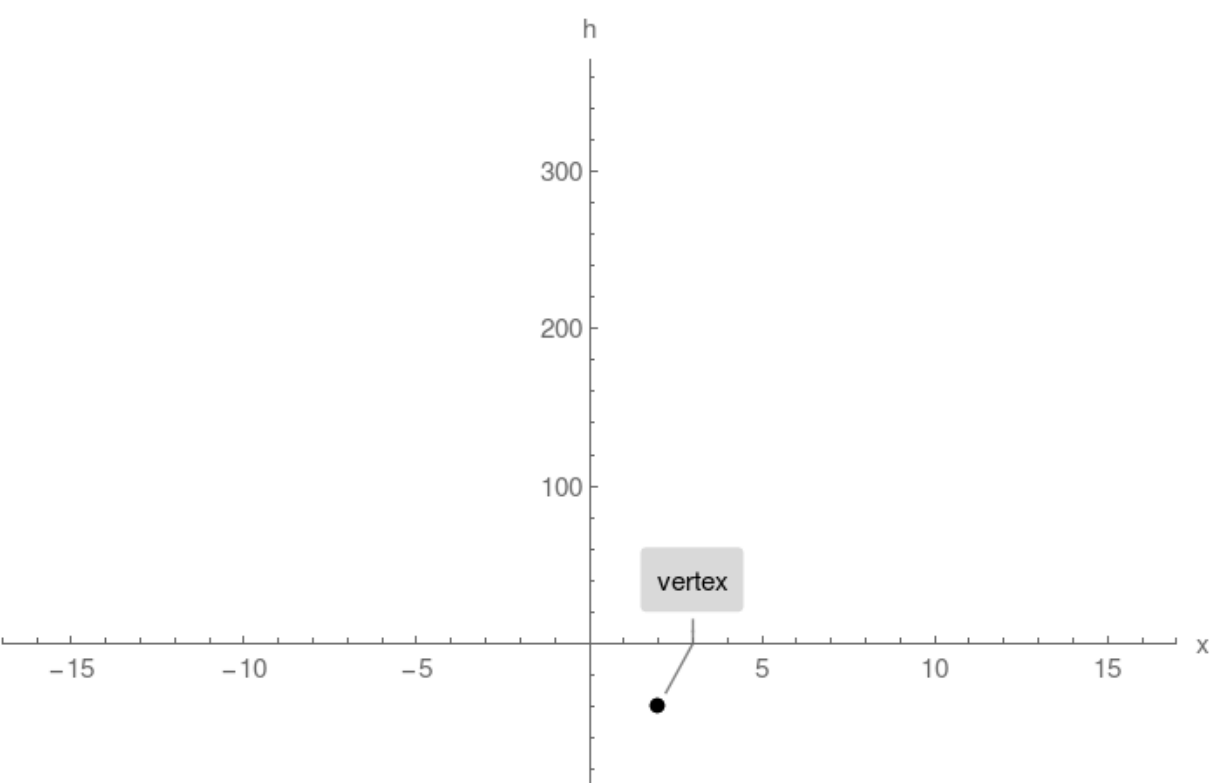
Example 1. 2 horizontal intercepts found

Plot $h(x) = x^2 - 4x - 36$

Step 1.

Compute vertex and plot single point:

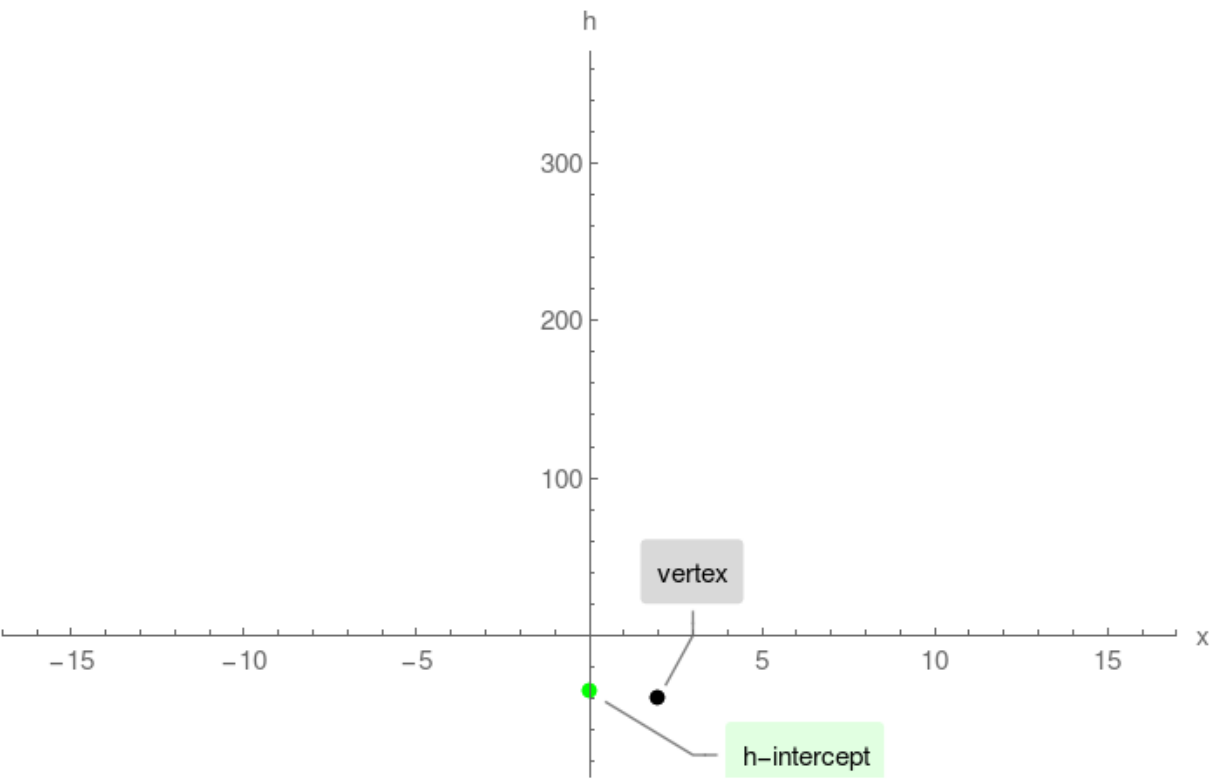
vertex = $(2, -40)$



Step 2.

Compute h-intercept and plot single point:

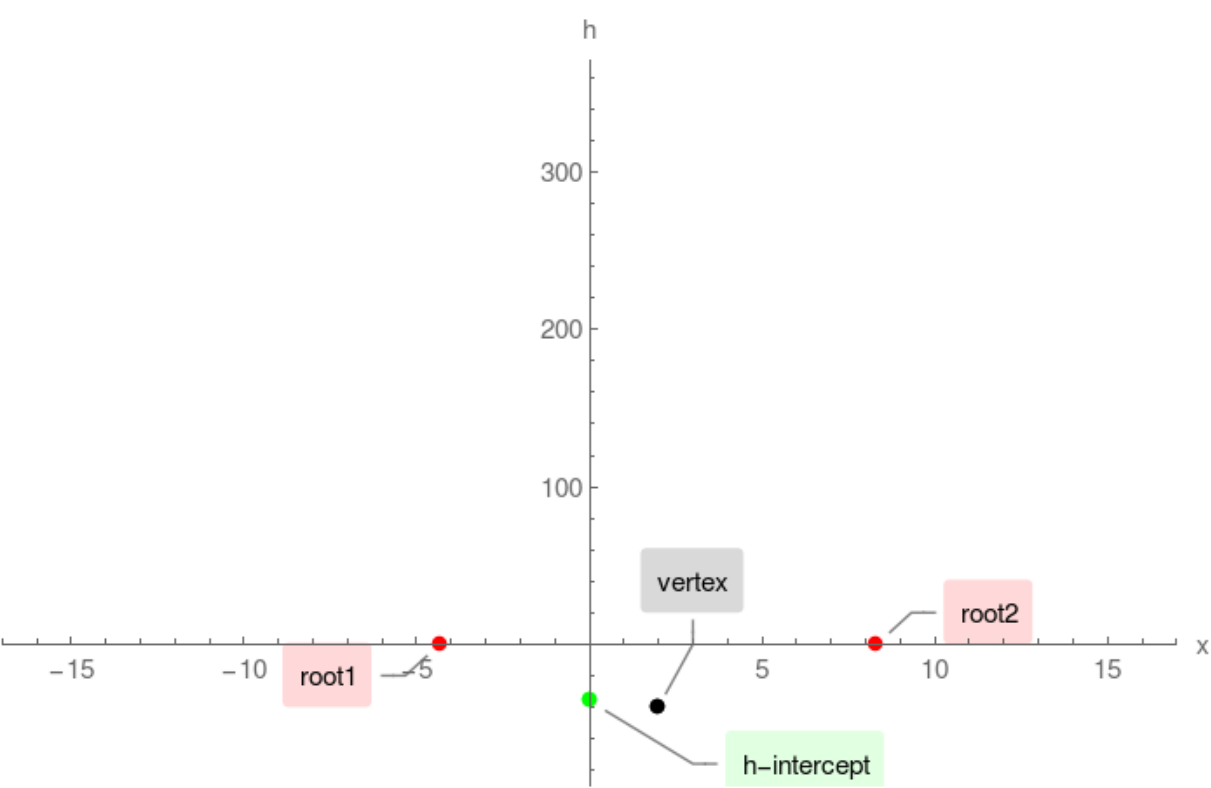
h-intercept = $(0, -36)$



Step 3.

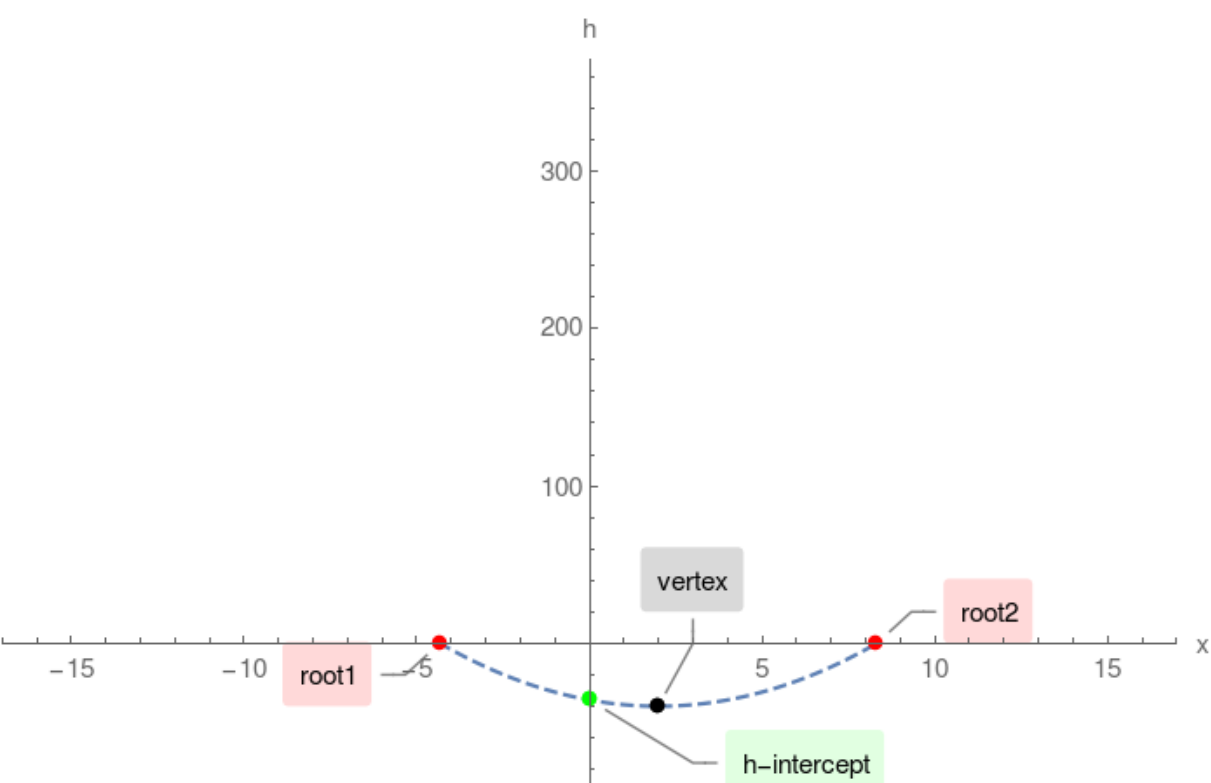
Compute x-intercepts by solving $x^2 - 4x - 36 = 0$:

$(2 - 2\sqrt{10}, 0)$, $(2 + 2\sqrt{10}, 0)$



Step 4.

connect the above computed points:



Step 5.

Extend the parabola beyond the range of intercepts

