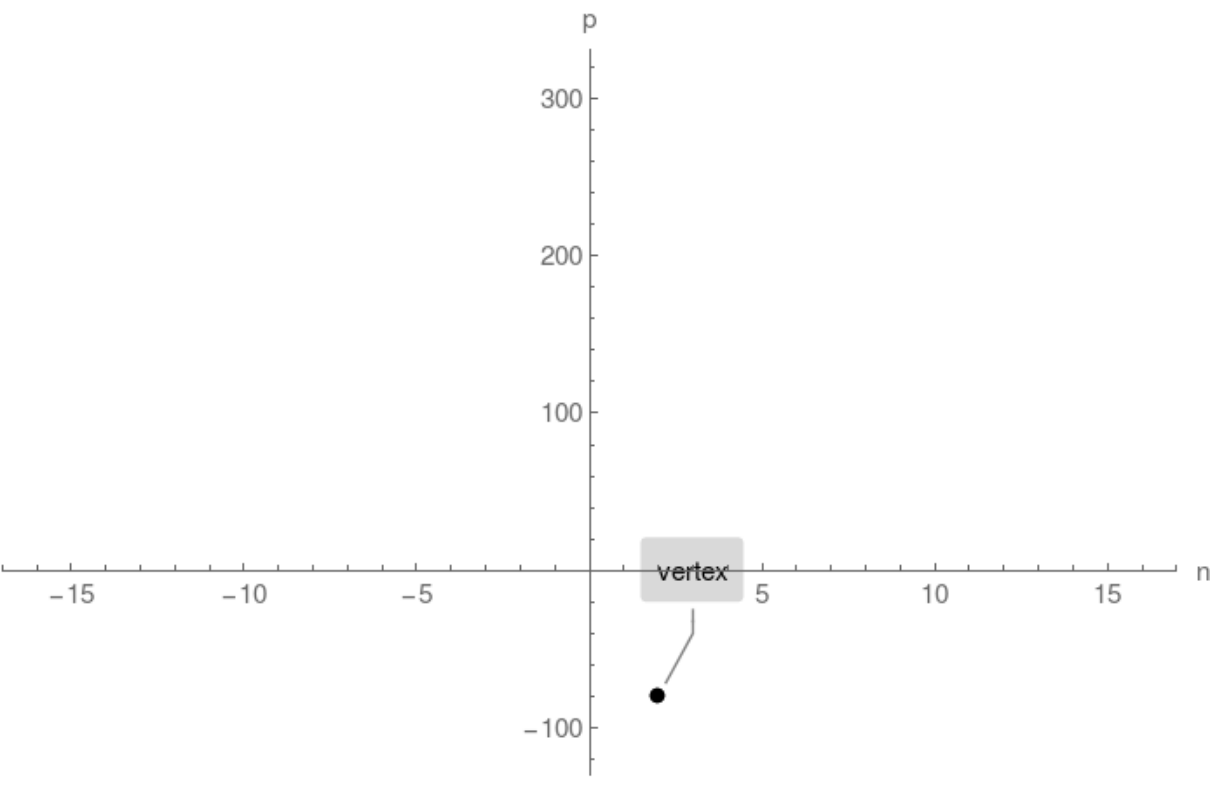
Example 1. 2 horizontal intercepts found

Plot $p(n)=n^2-4n-76$

Step 1.

Compute vertex and plot single point:

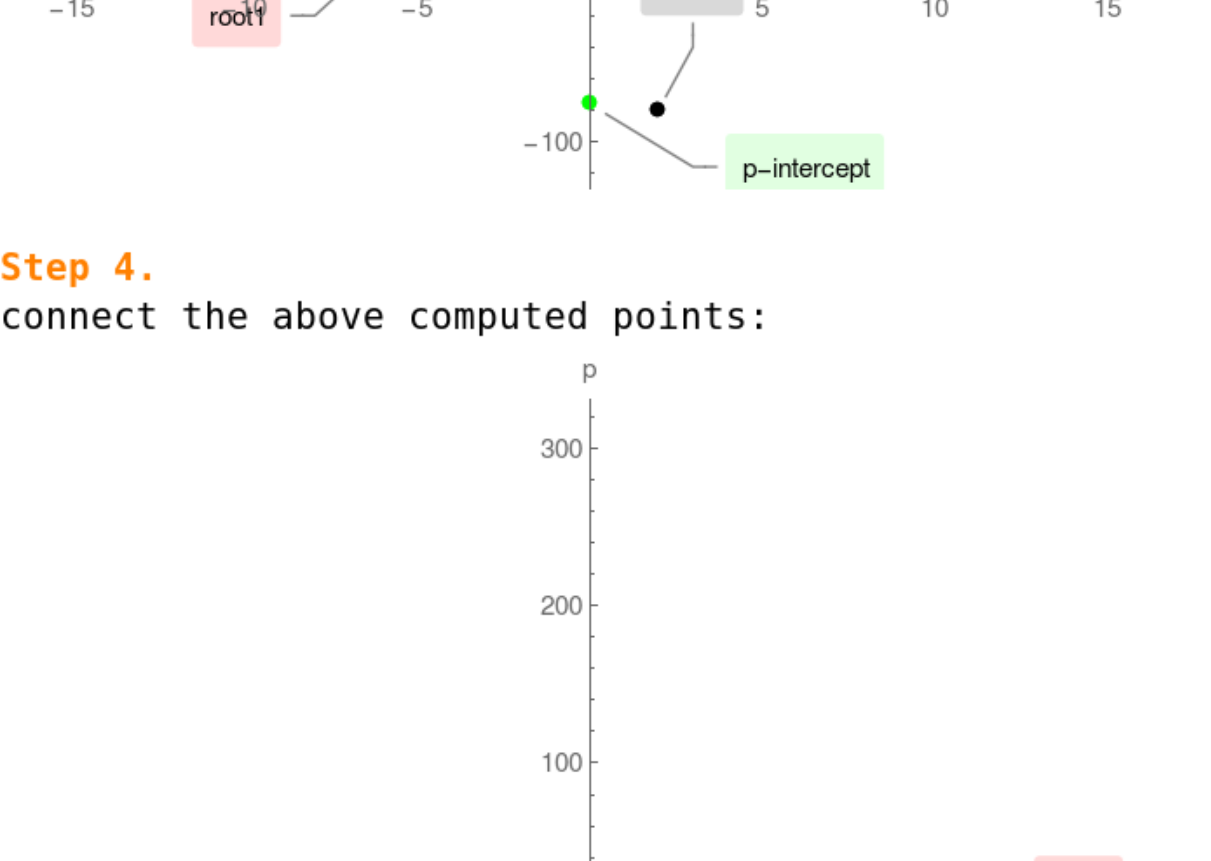
vertex$=(2,-80)$



Step 2.

Compute p-intercept and plot single point:

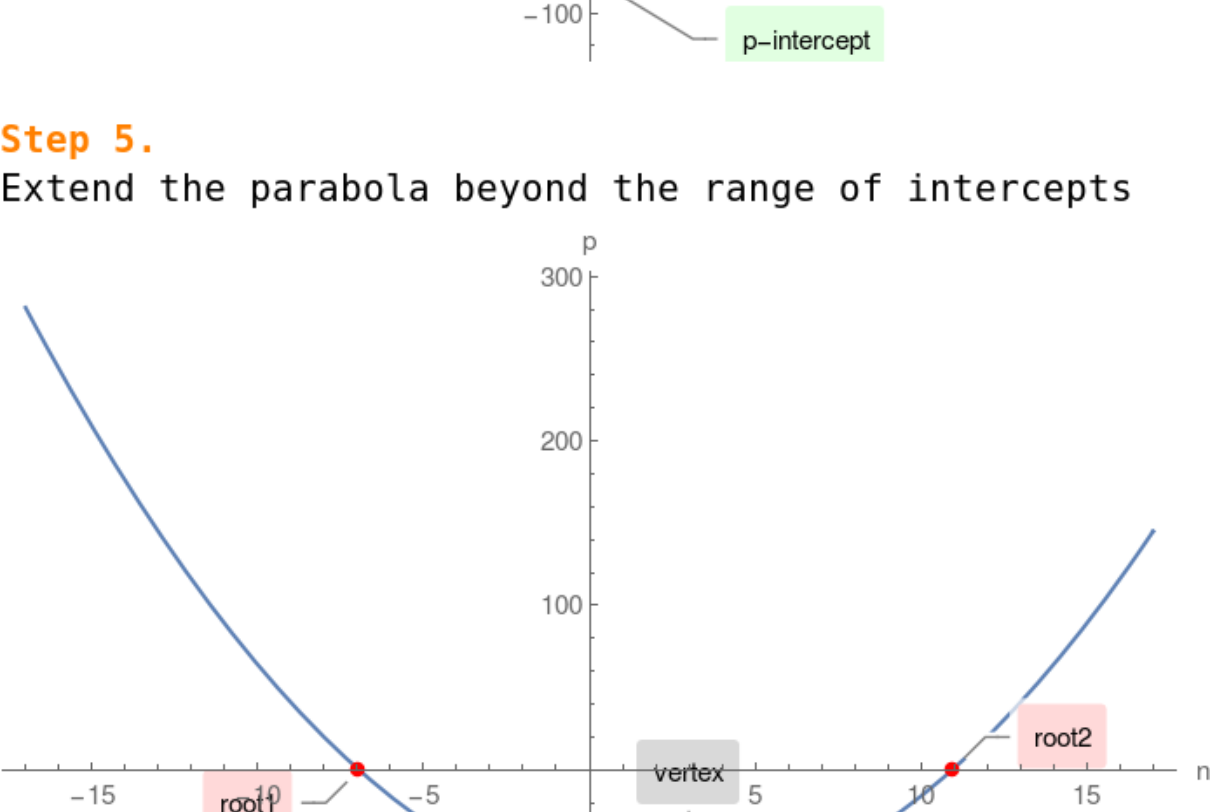
p-intercept$=(0,-76)$



Step 3.

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

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



Step 4.

connect the above computed points:

Step 5.

Extend the parabola beyond the range of intercepts