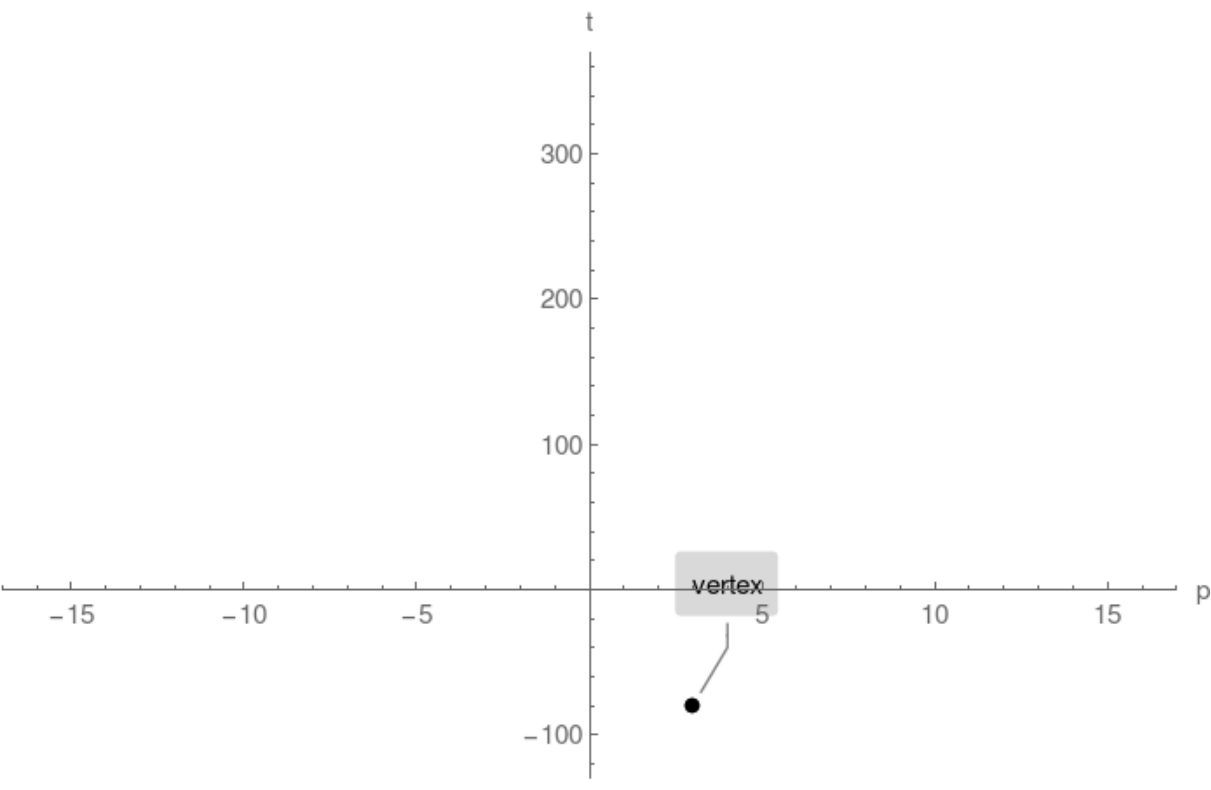
Example 1. 2 horizontal intercepts found

Plot $t(p)=p^2-6p-71$

Step 1.

Compute vertex and plot single point:

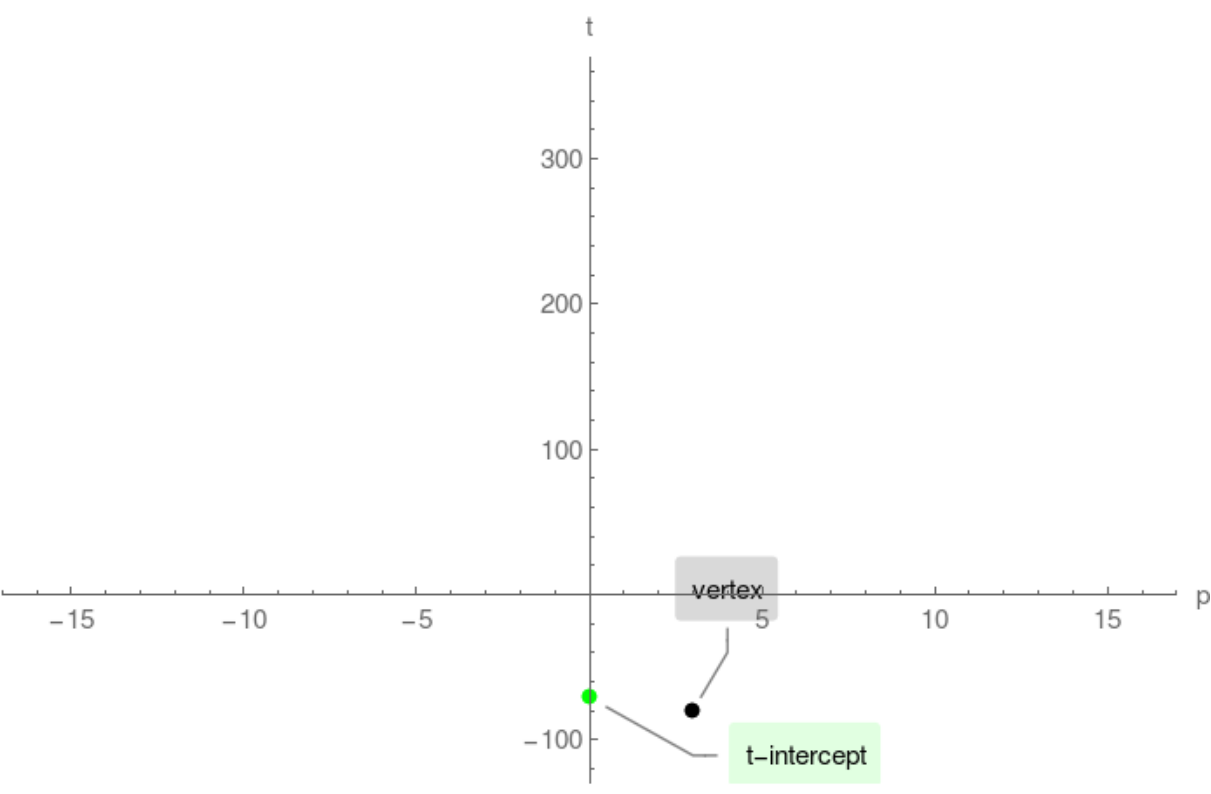
vertex$=(3,-80)$



Step 2.

Compute t-intercept and plot single point:

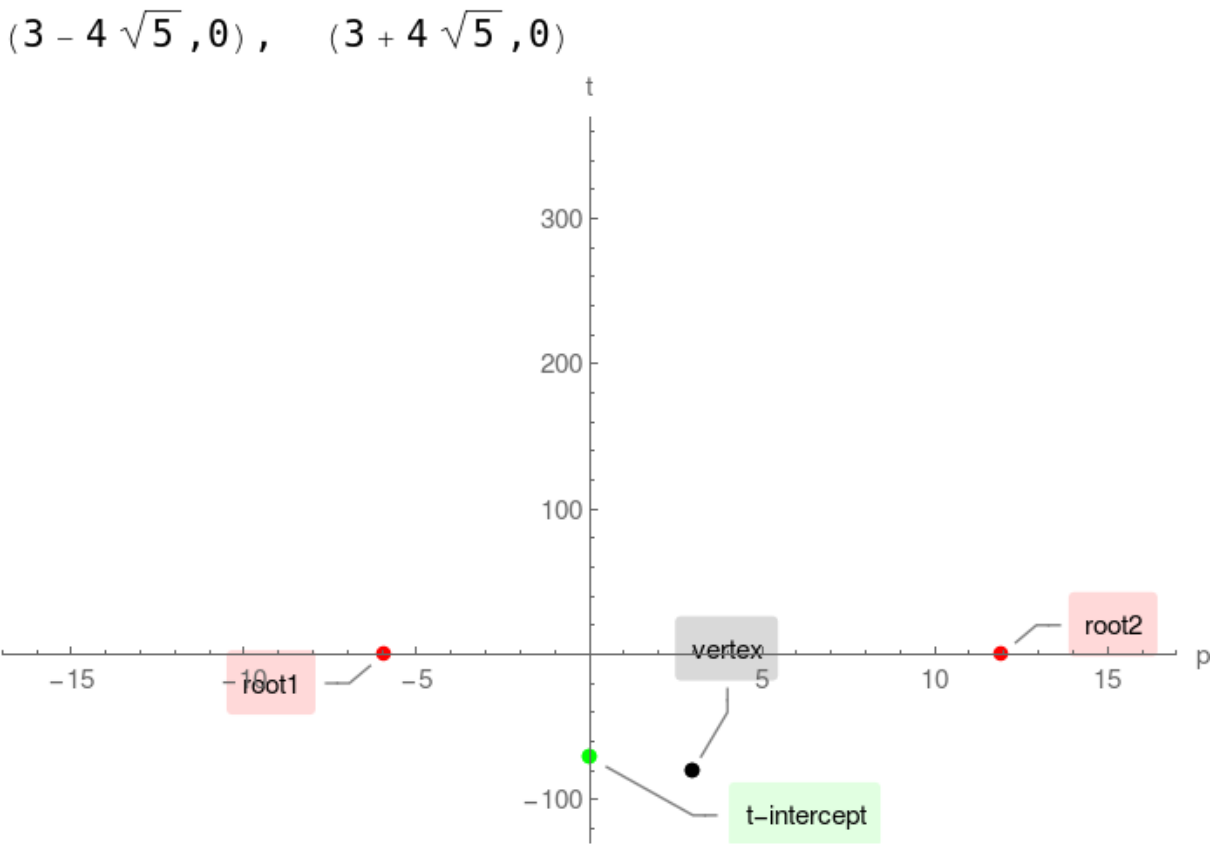
t-intercept$=(0,-71)$



Step 3.

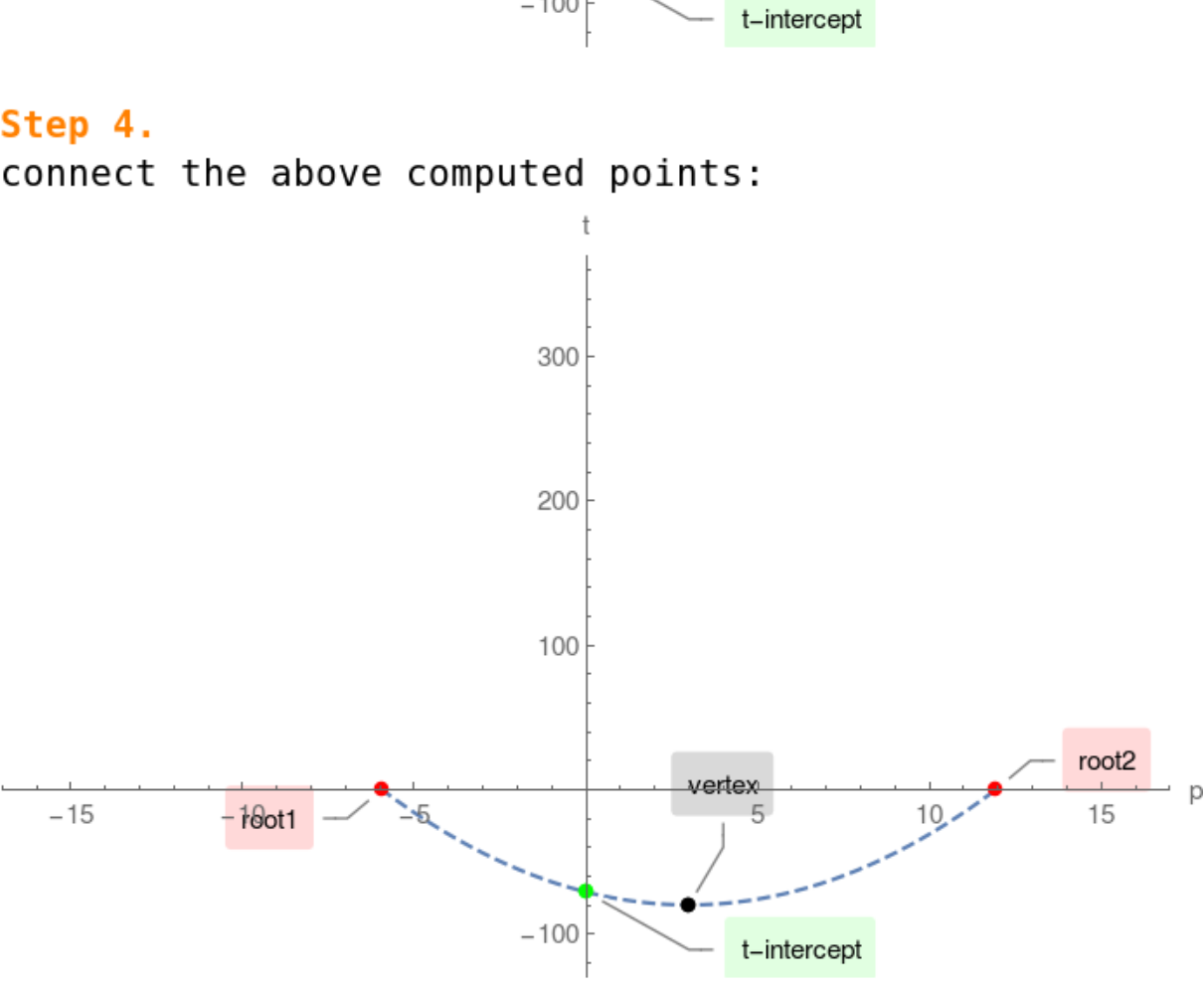
Compute p-intercepts by solving $p^2-6p-71=0$:

$(3-4\sqrt{5},0)$, $(3+4\sqrt{5},0)$



Step 4.

connect the above computed points:



Step 5.

Extend the parabola beyond the range of intercepts