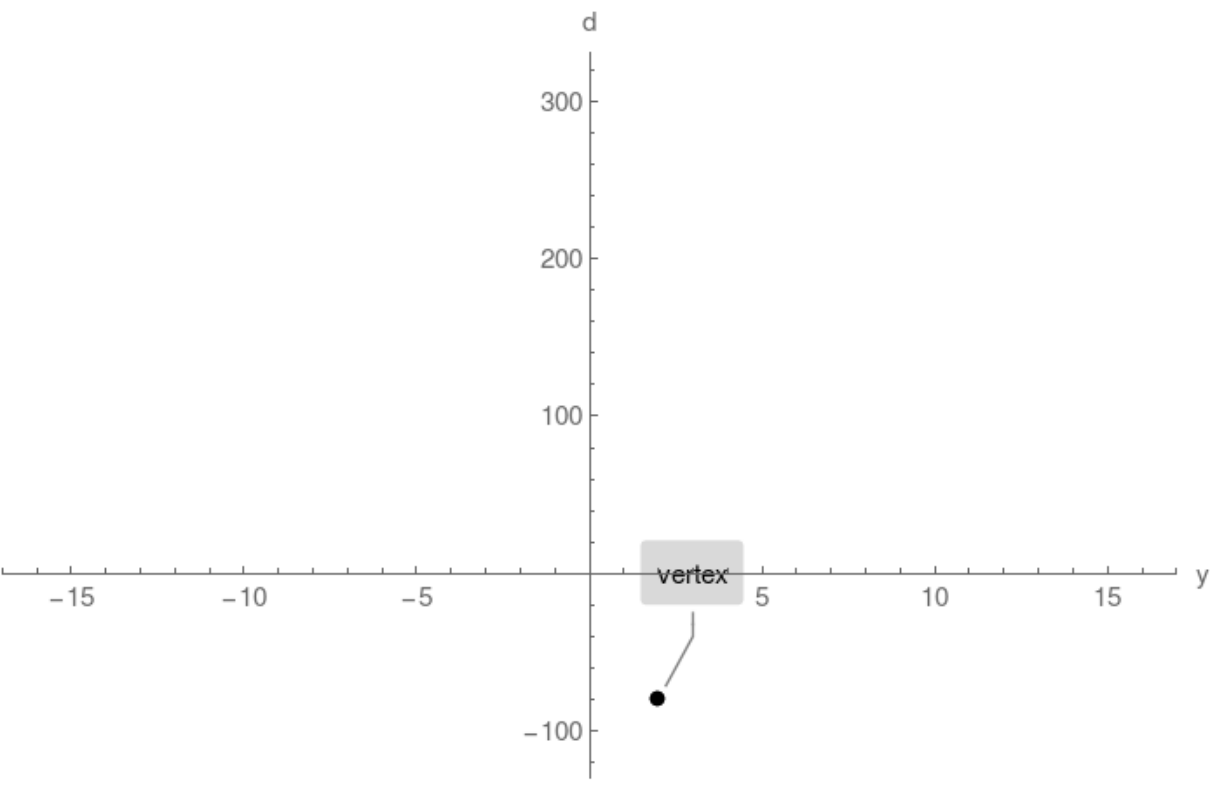
Example 1. 2 horizontal intercepts found

Plot $d(y) = y^2 - 4y - 76$

Step 1.

Compute vertex and plot single point:

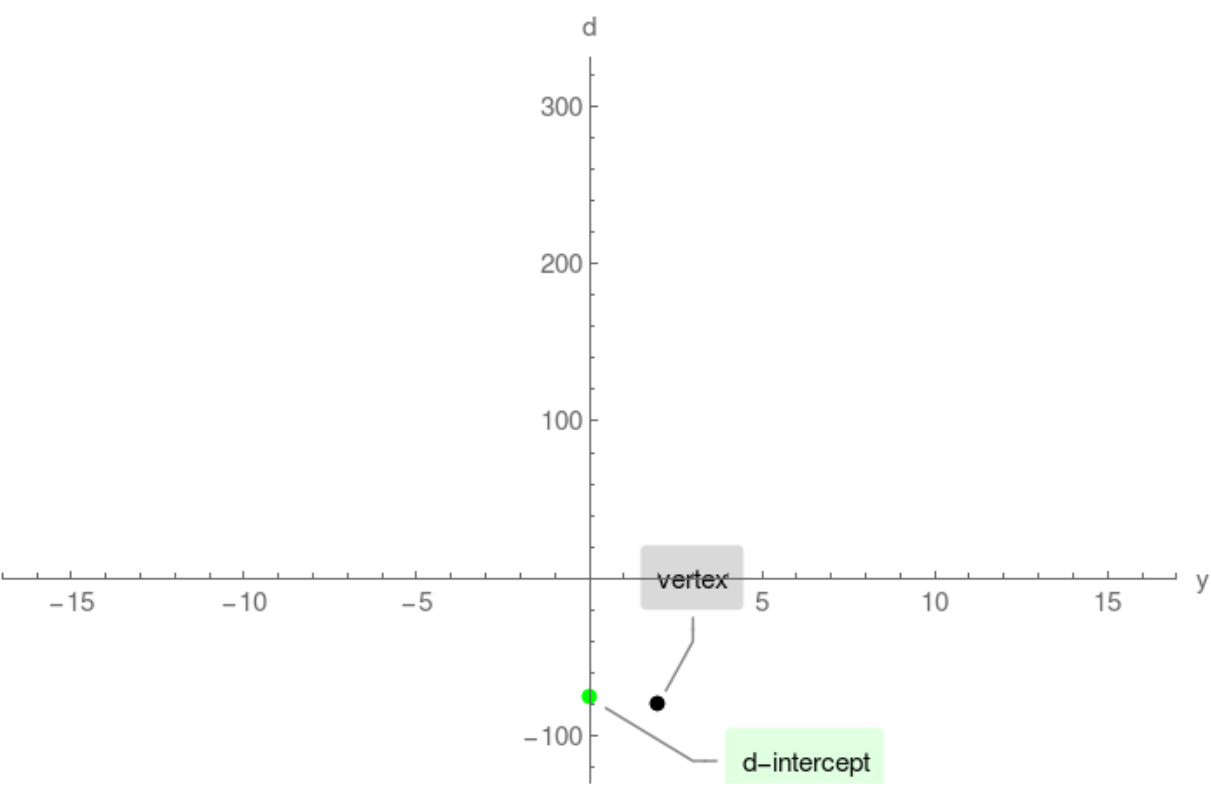
vertex $= (2, -80)$



Step 2.

Compute d-intercept and plot single point:

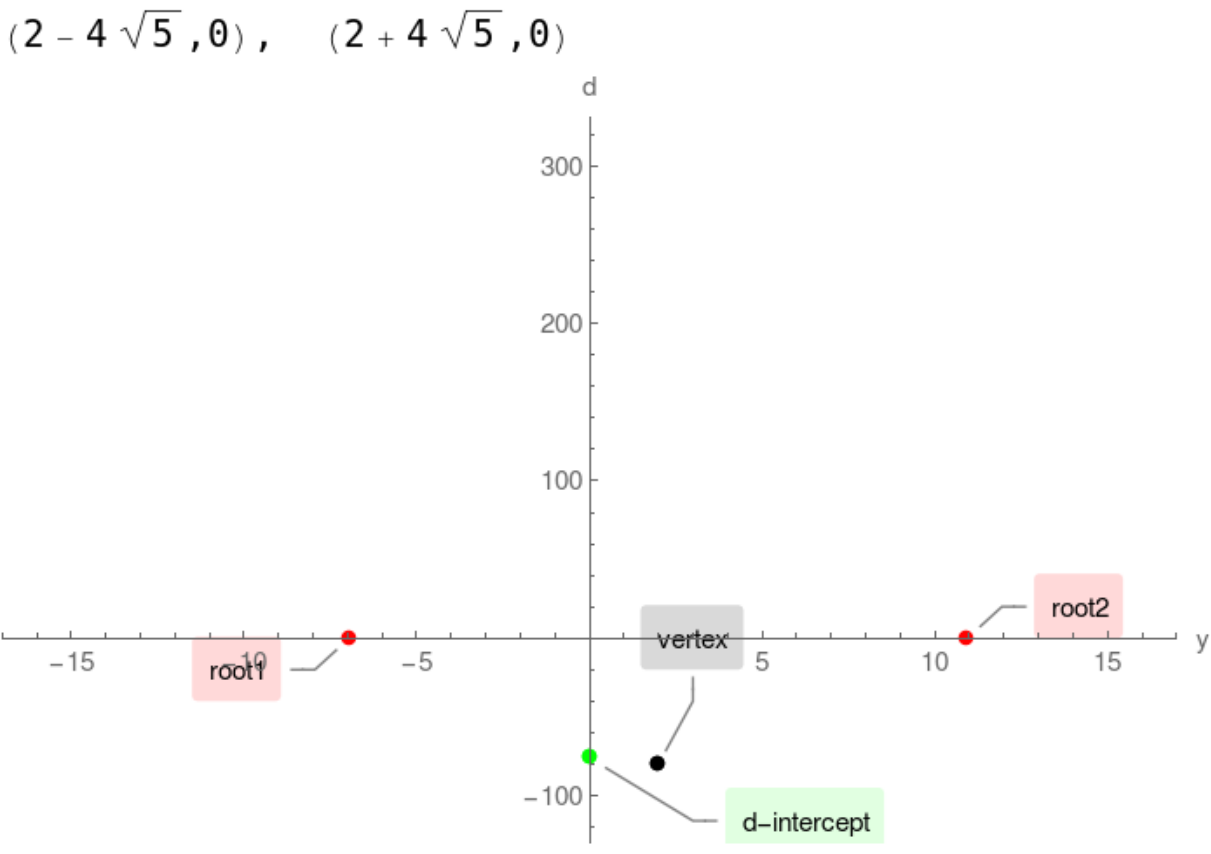
d-intercept $= (0, -76)$



Step 3.

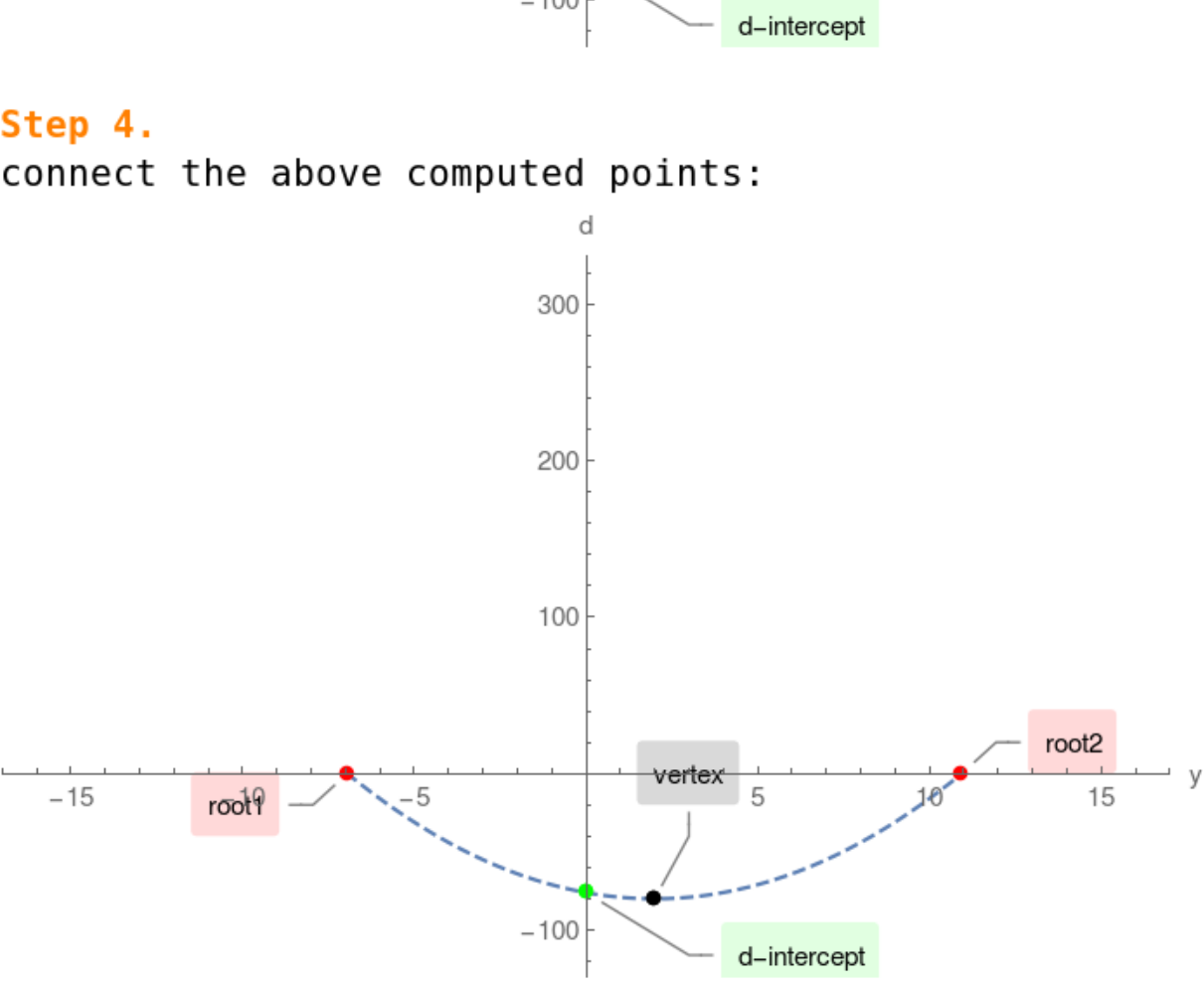
Compute y-intercepts by solving $y^2 - 4y - 76 = 0$:

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



Step 4.

connect the above computed points:



Step 5.

Extend the parabola beyond the range of intercepts