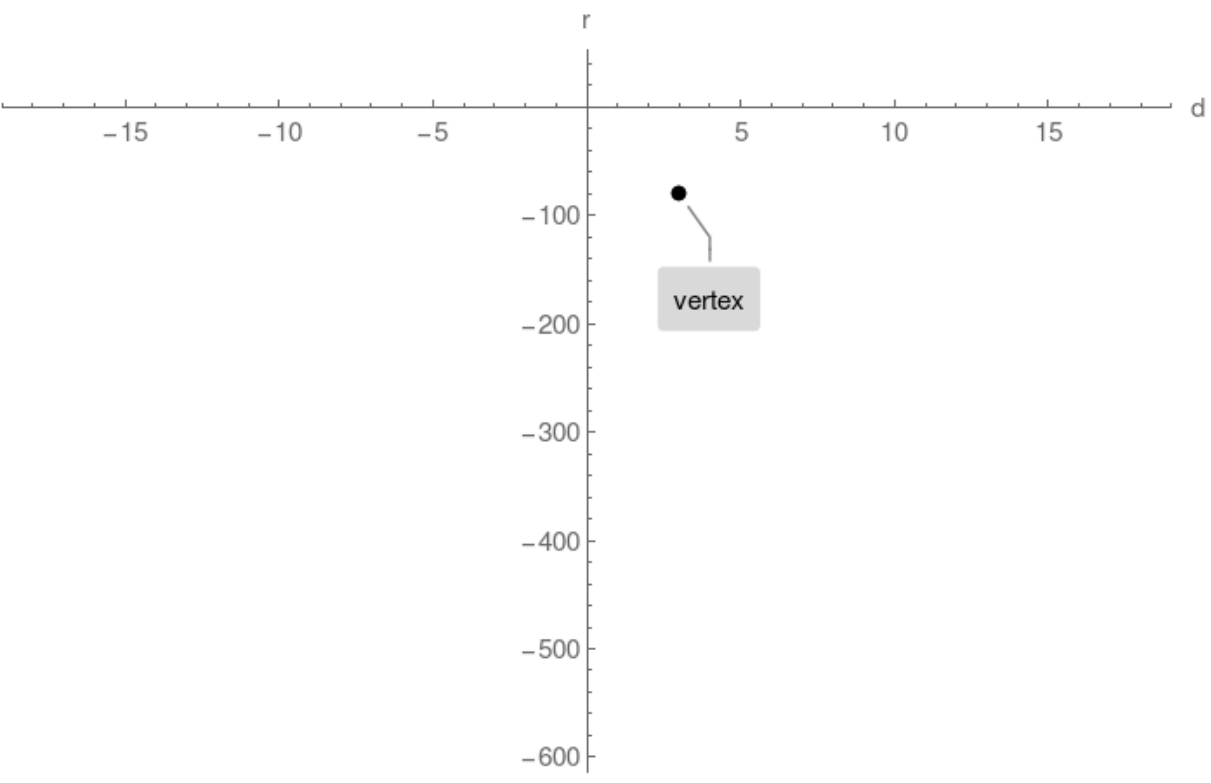
Example 2. No horizontal intercepts found

Plot $r(d) = -d^2 + 6d - 89$

Step 1.

Compute vertex and plot single point:

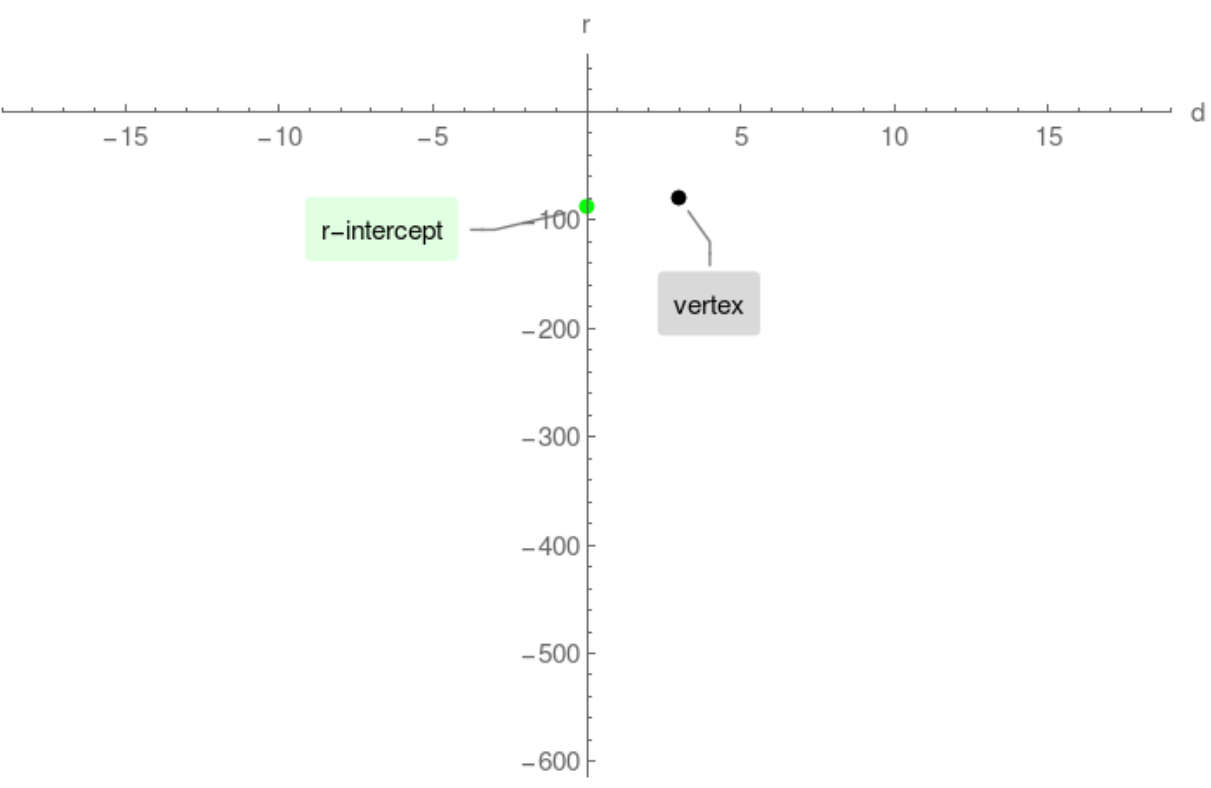
vertex$= (3, -80)$



Step 2.

Compute r-intercept and plot single point:

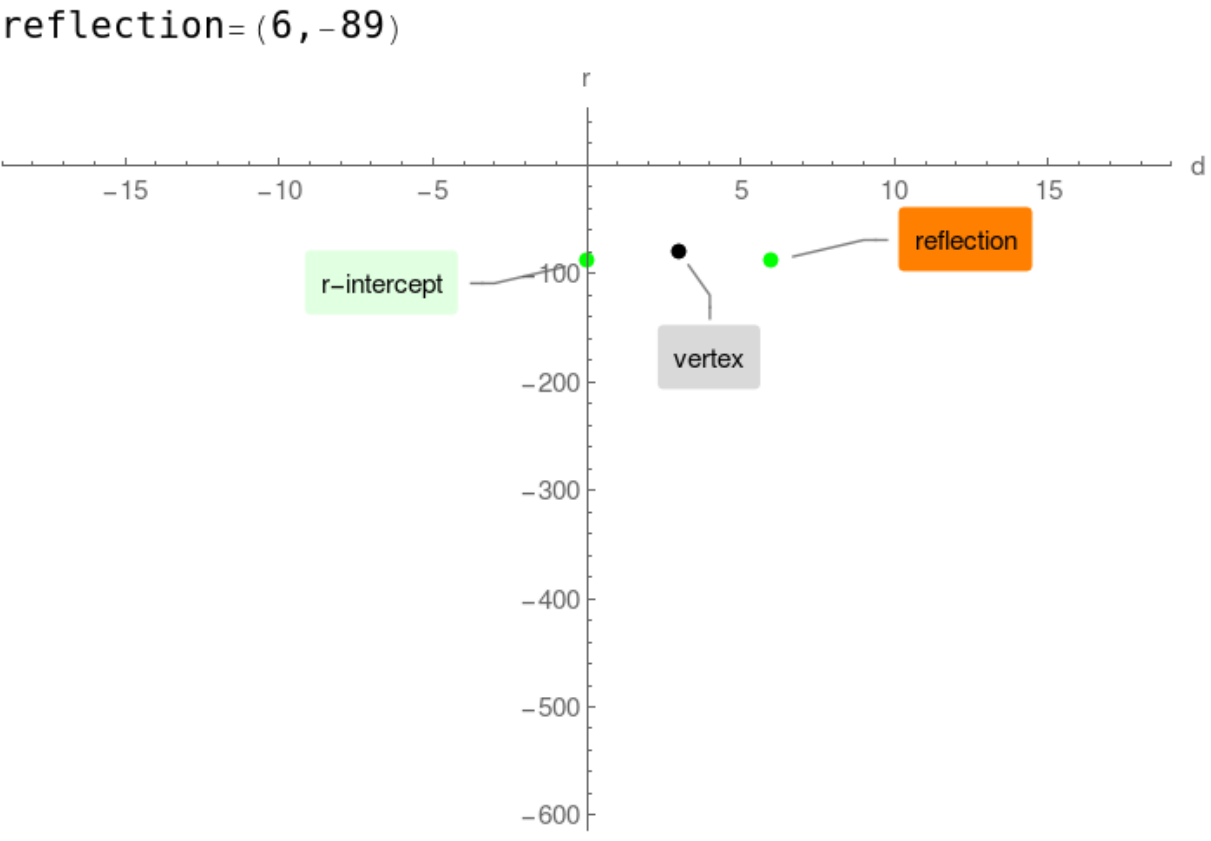
r-intercept$= (0, -89)$



Step 3.

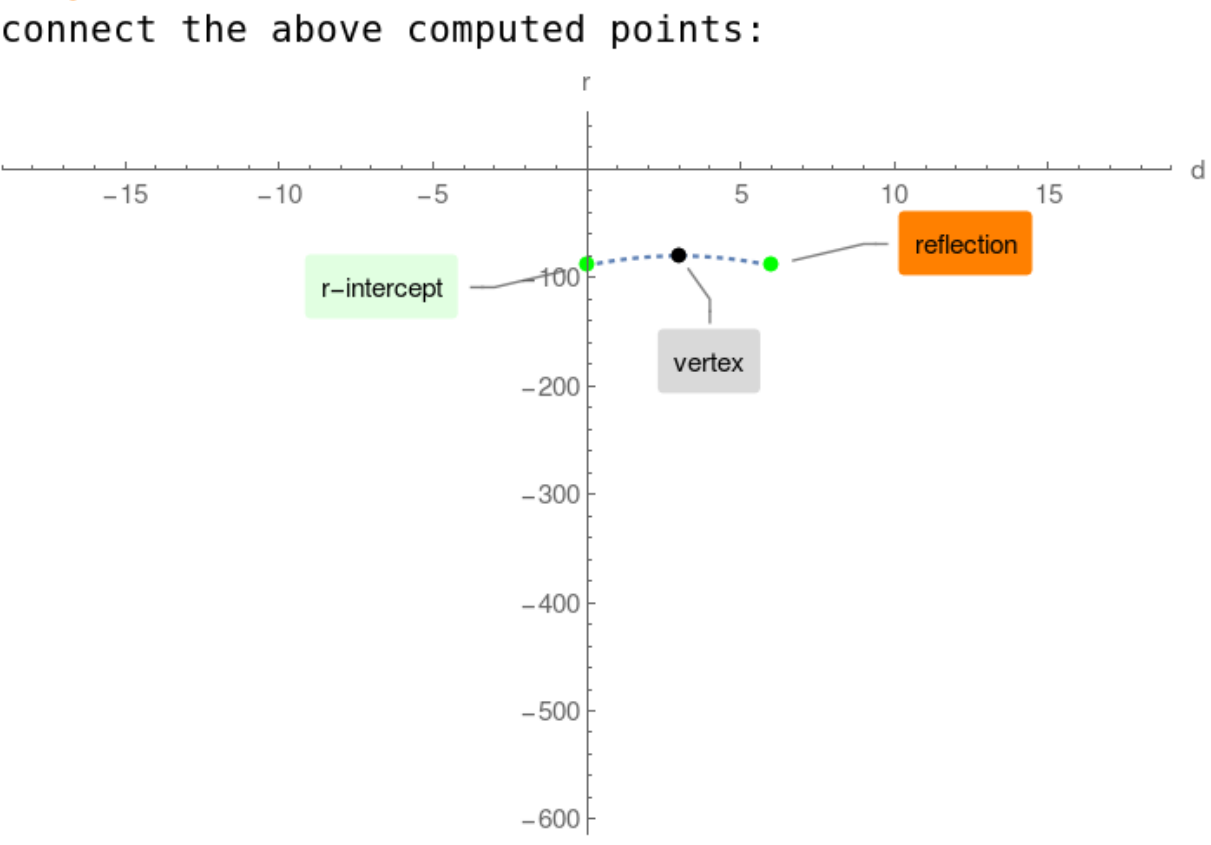
Compute r-intercept reflected against vertex,

reflection$= (6, -89)$



Step 4.

connect the above computed points:



Step 5.

Extend the parabola beyond the range of intercepts