

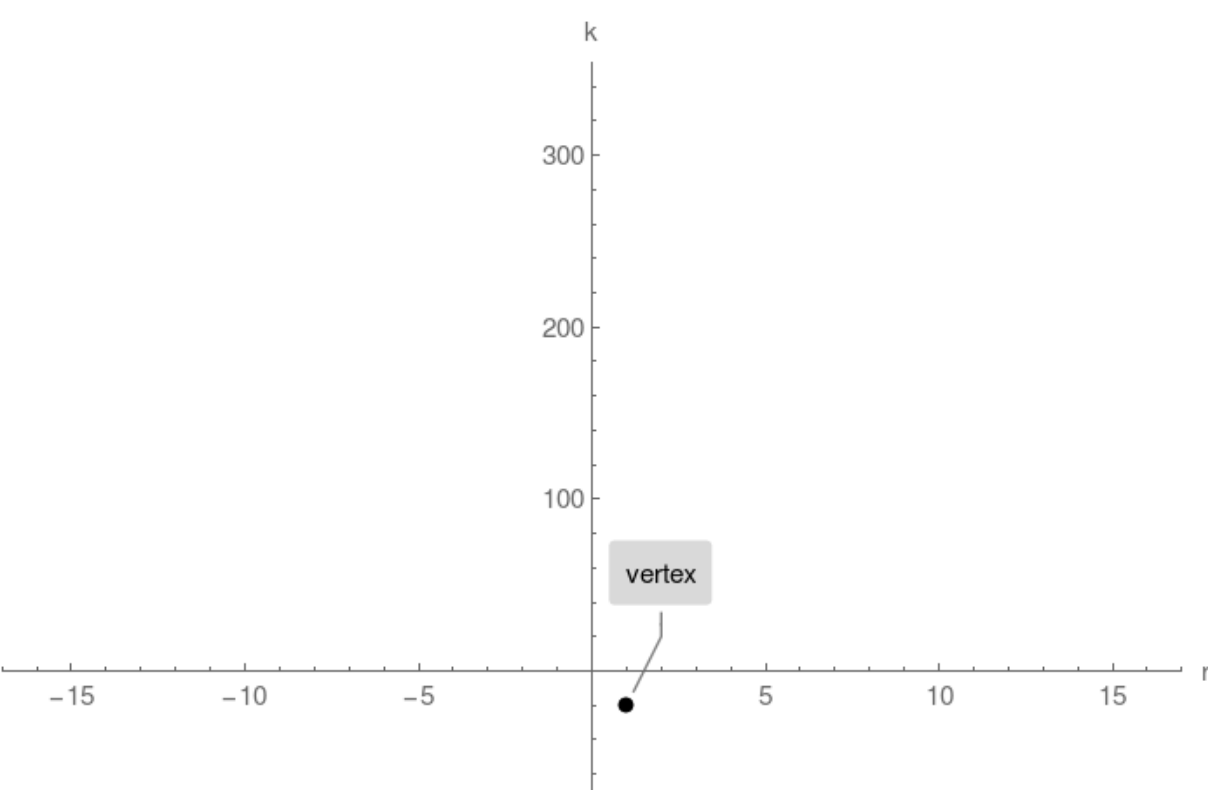
Example 1. 2 horizontal intercepts found

Plot $k(r) = r^2 - 2r - 19$

Step 1.

Compute vertex and plot single point:

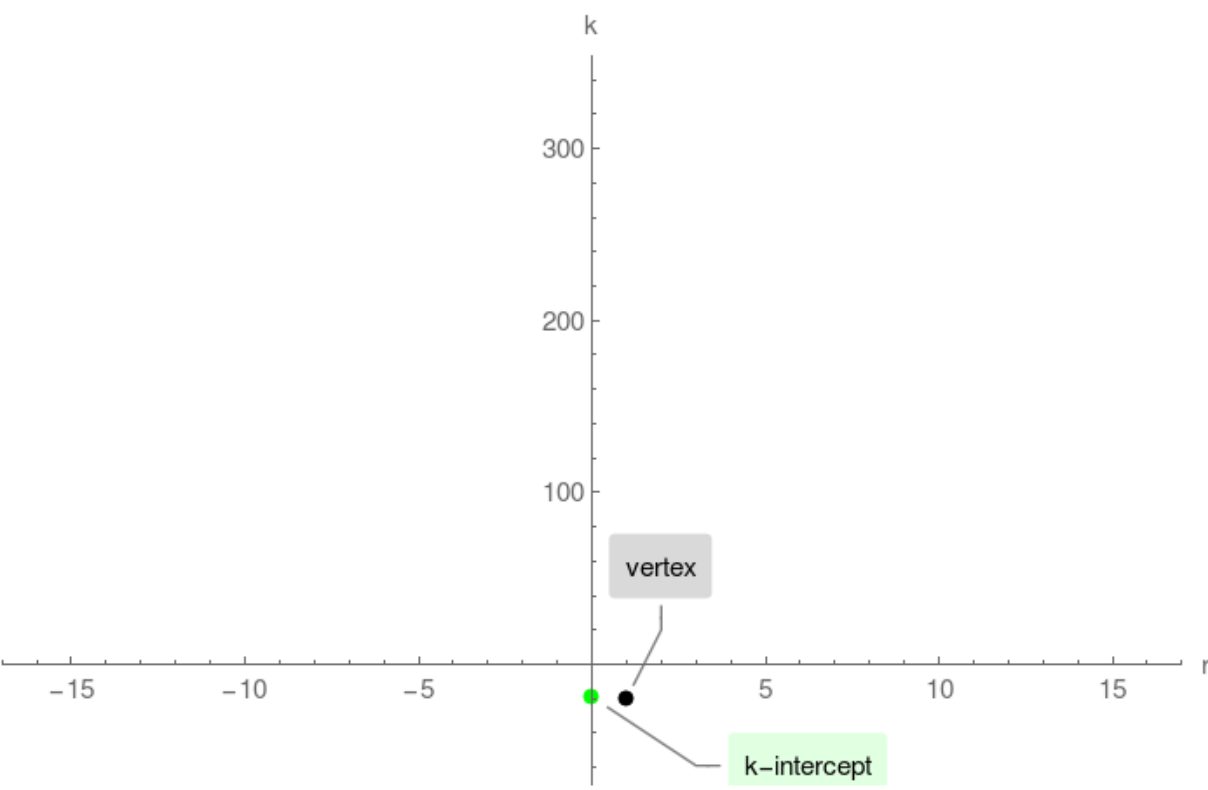
vertex = $(1, -20)$



Step 2.

Compute k-intercept and plot single point:

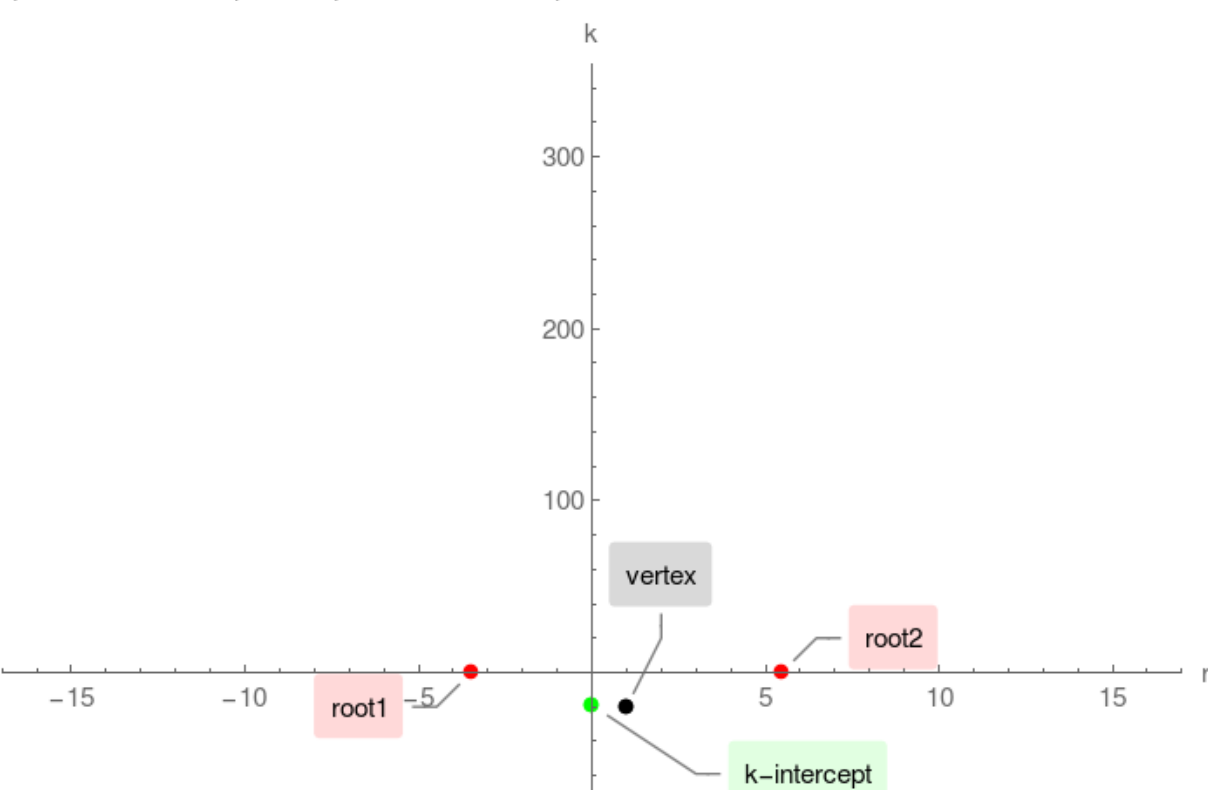
k-intercept = $(0, -19)$



Step 3.

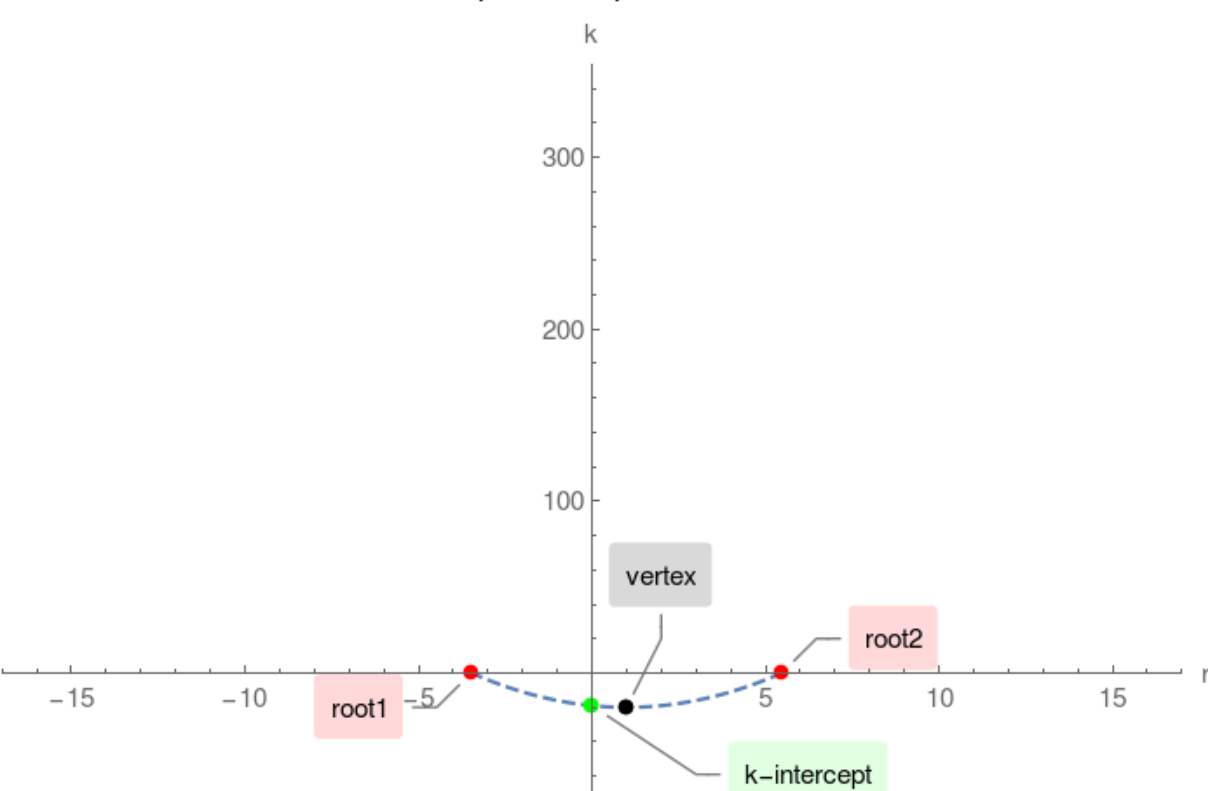
Compute r-intercepts by solving $r^2 - 2r - 19 = 0$:

$(1 - 2\sqrt{5}, 0)$, $(1 + 2\sqrt{5}, 0)$



Step 4.

connect the above computed points:



Step 5.

Extend the parabola beyond the range of intercepts

