

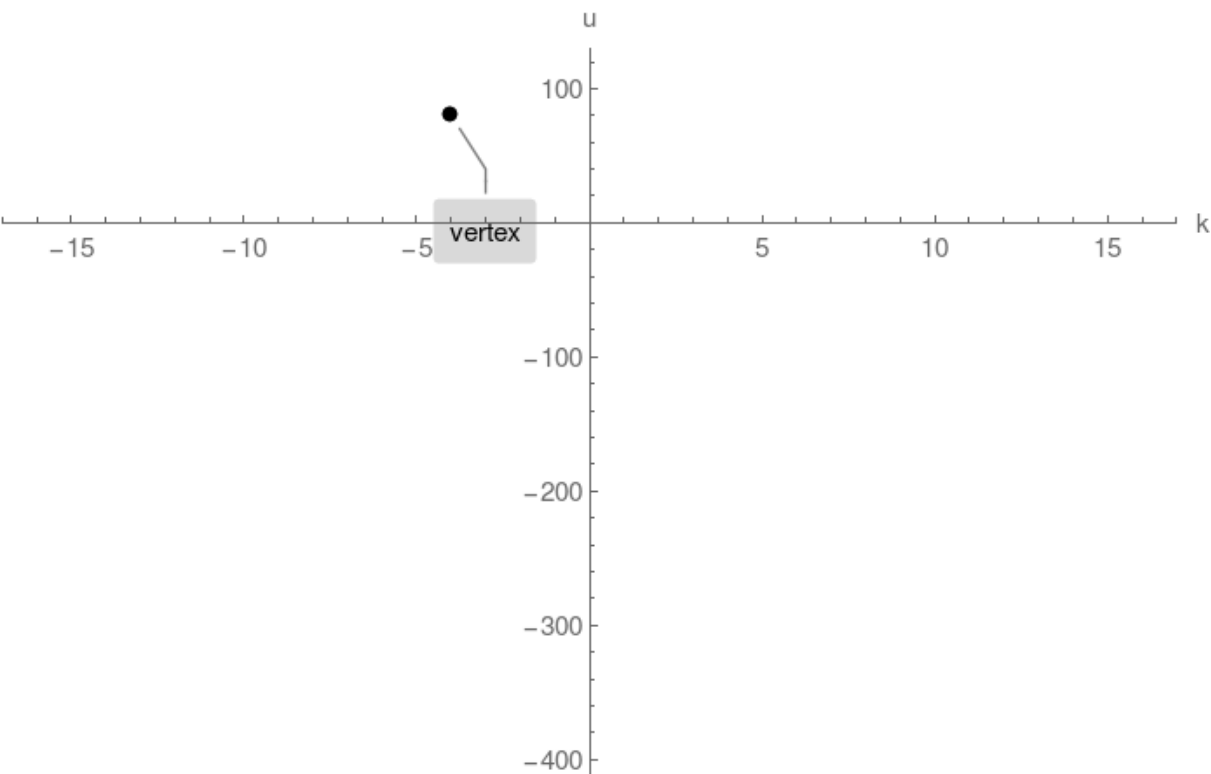
Example 1. 2 horizontal intercepts found

Plot $u(k) = -k^2 - 8k + 64$

Step 1.

Compute vertex and plot single point:

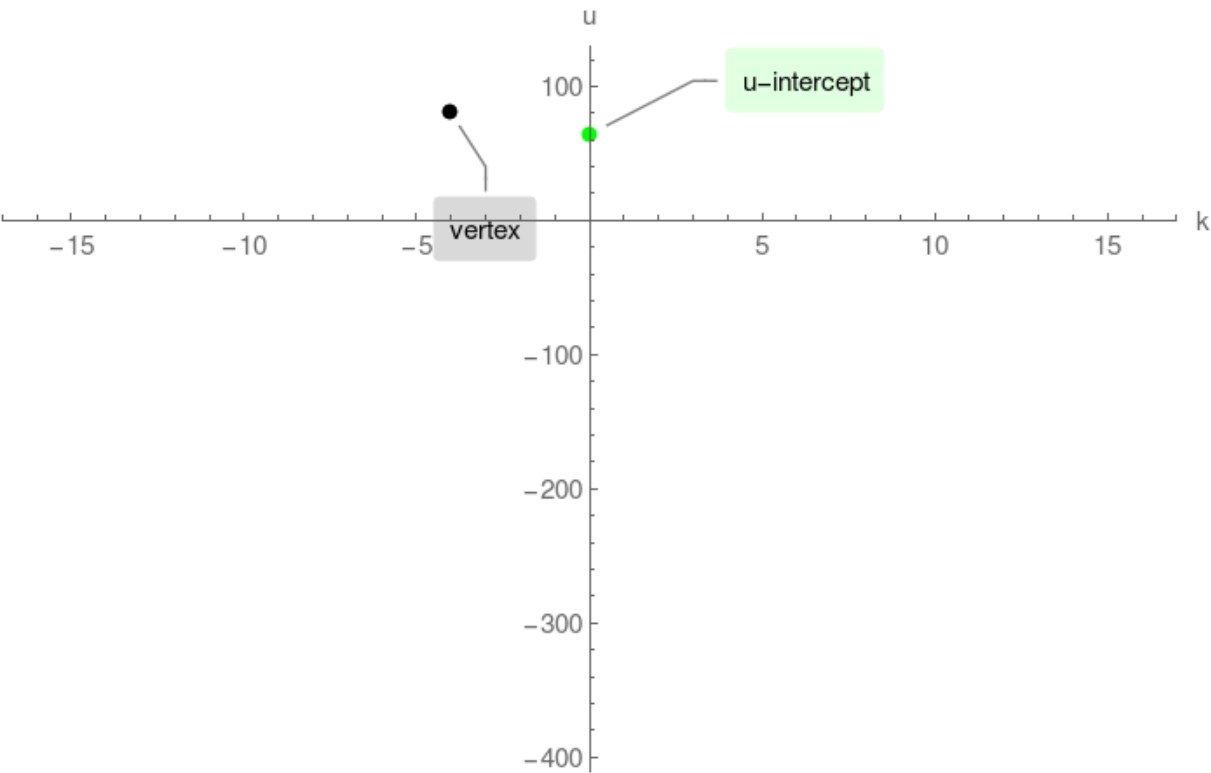
vertex = $(-4, 80)$



Step 2.

Compute u-intercept and plot single point:

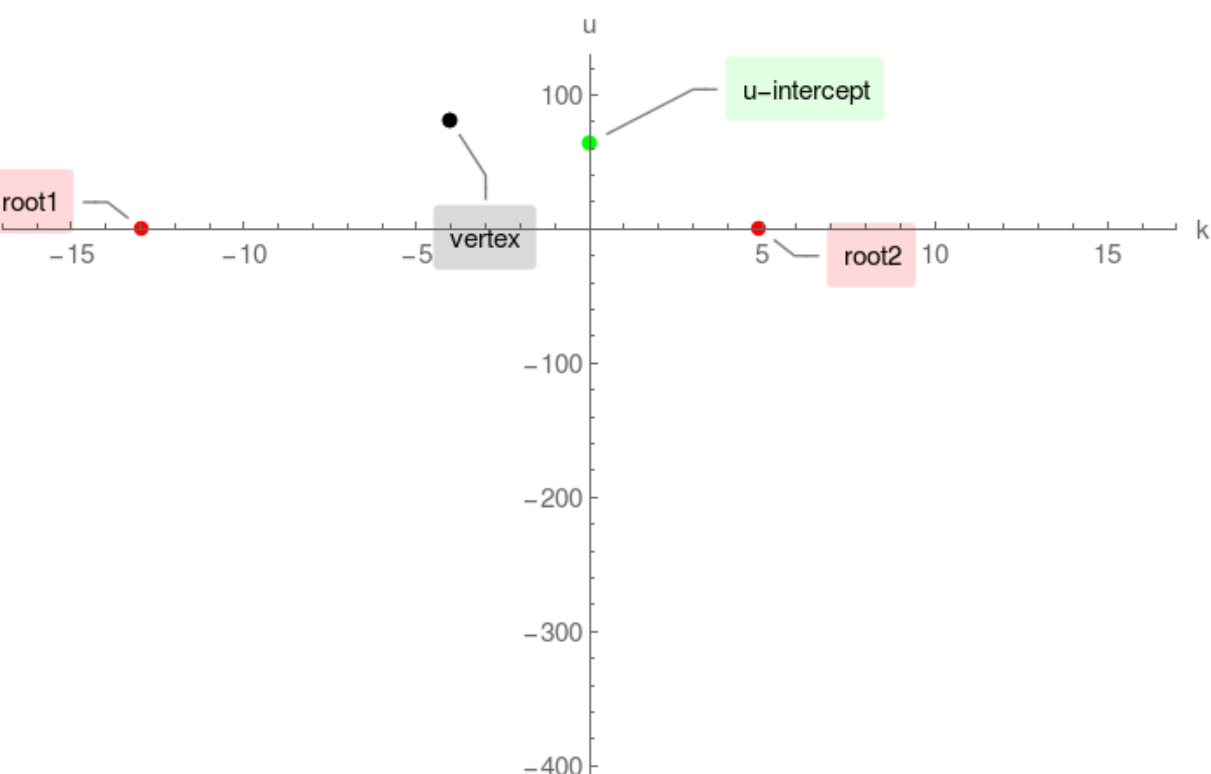
u-intercept = $(0, 64)$



Step 3.

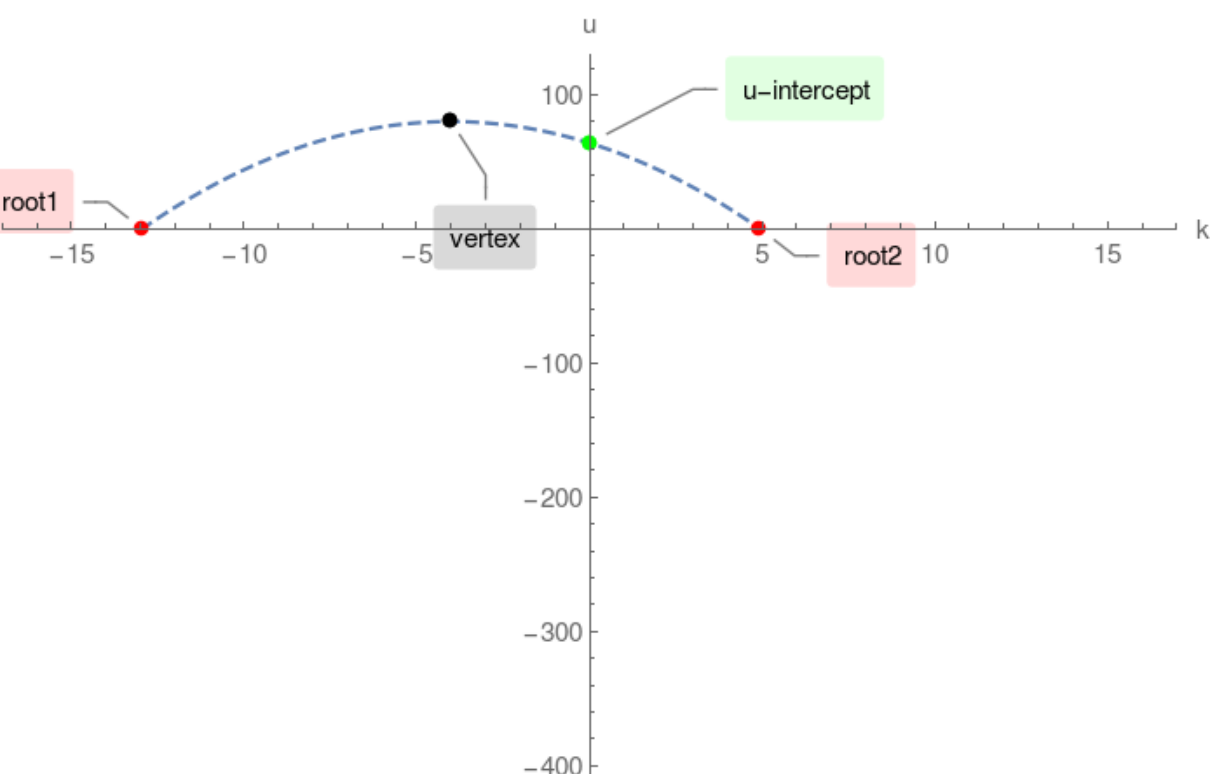
Compute k-intercepts by solving $-k^2 - 8k + 64 = 0$:

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



Step 4.

connect the above computed points:



Step 5.

Extend the parabola beyond the range of intercepts

