

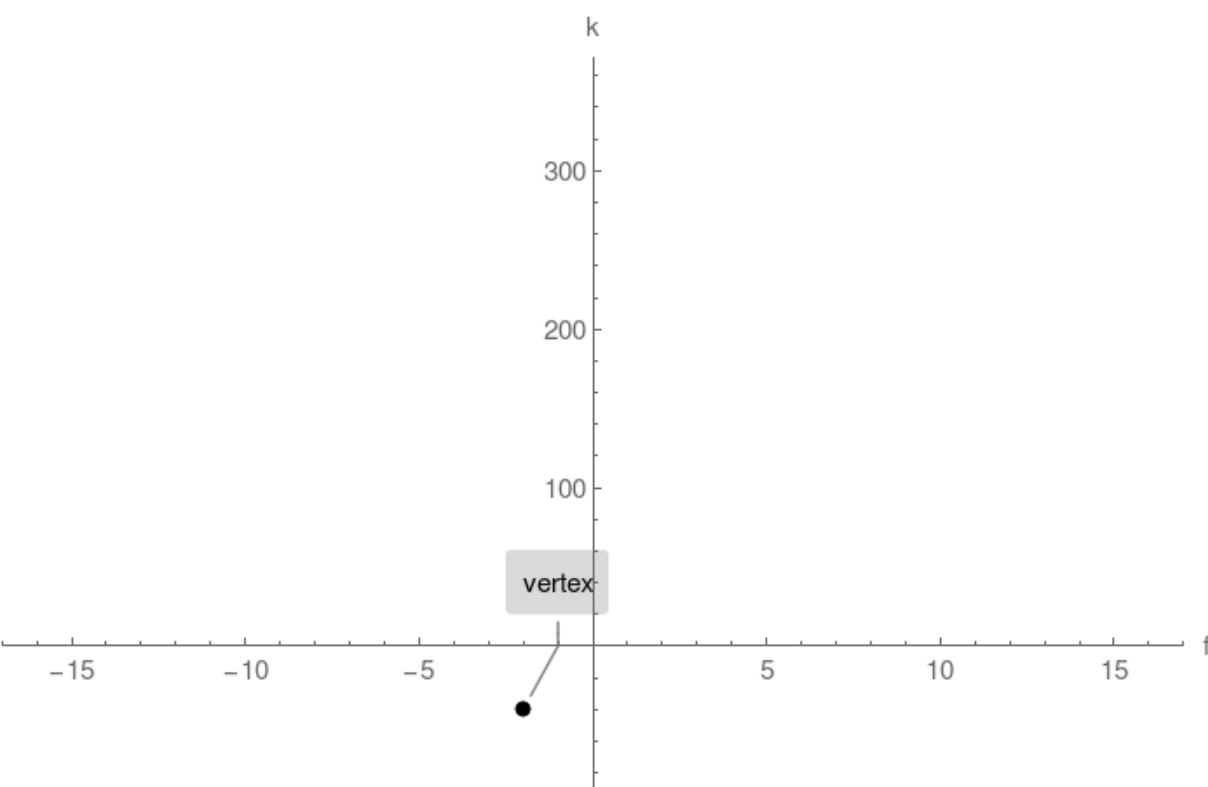
Example 1. 2 horizontal intercepts found

Plot $k(f) = f^2 + 4f - 36$

Step 1.

Compute vertex and plot single point:

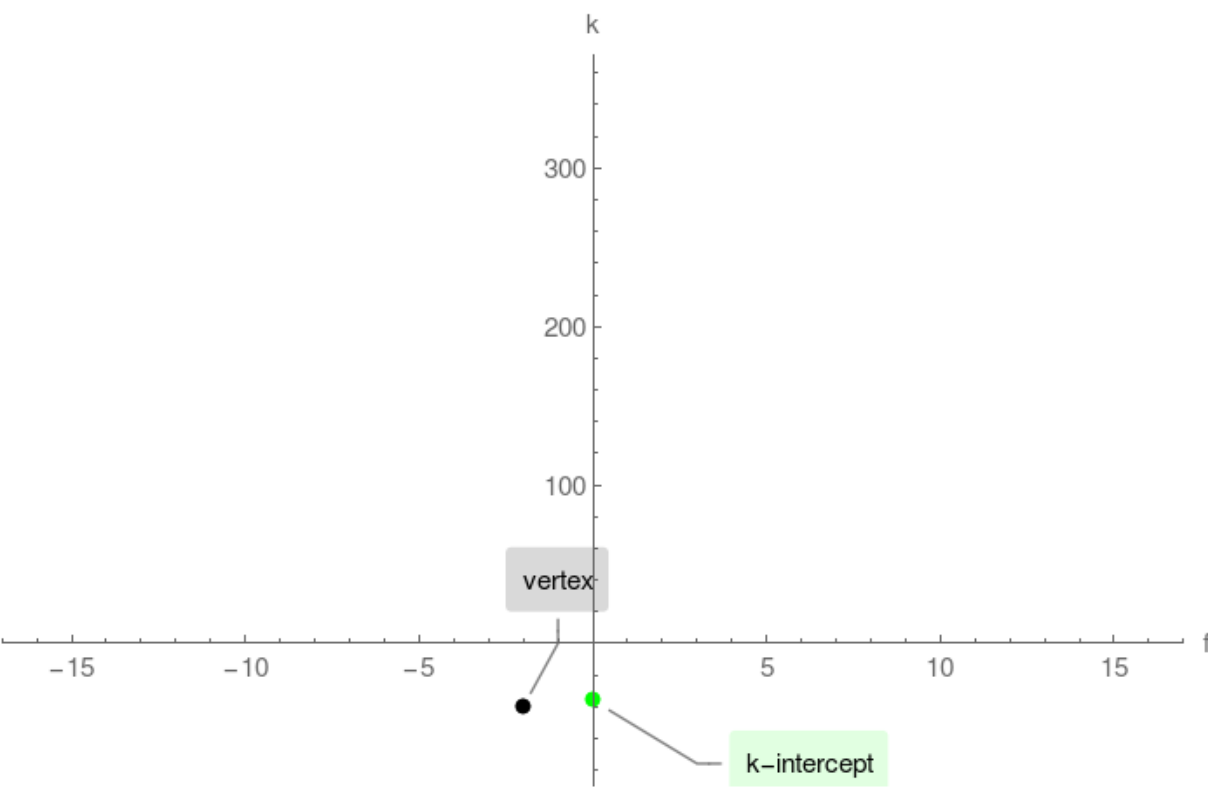
vertex = $(-2, -40)$



Step 2.

Compute k-intercept and plot single point:

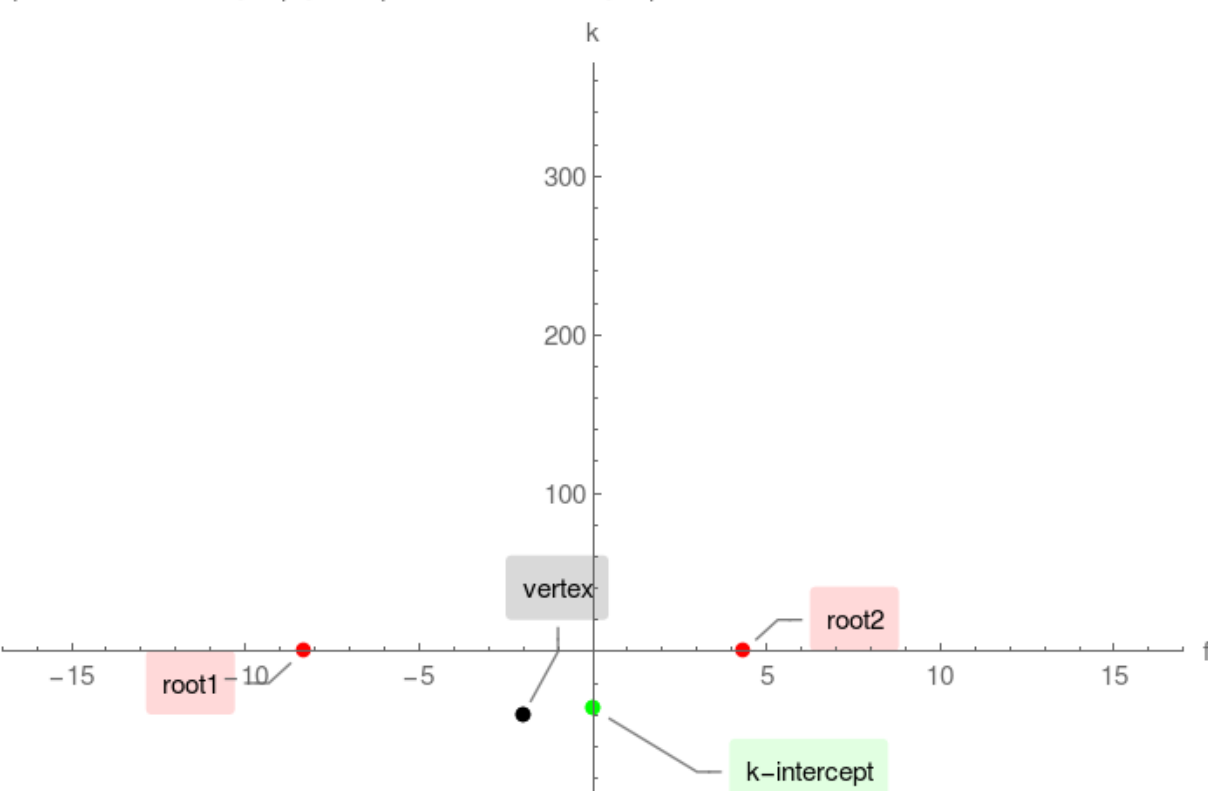
k-intercept = $(0, -36)$



Step 3.

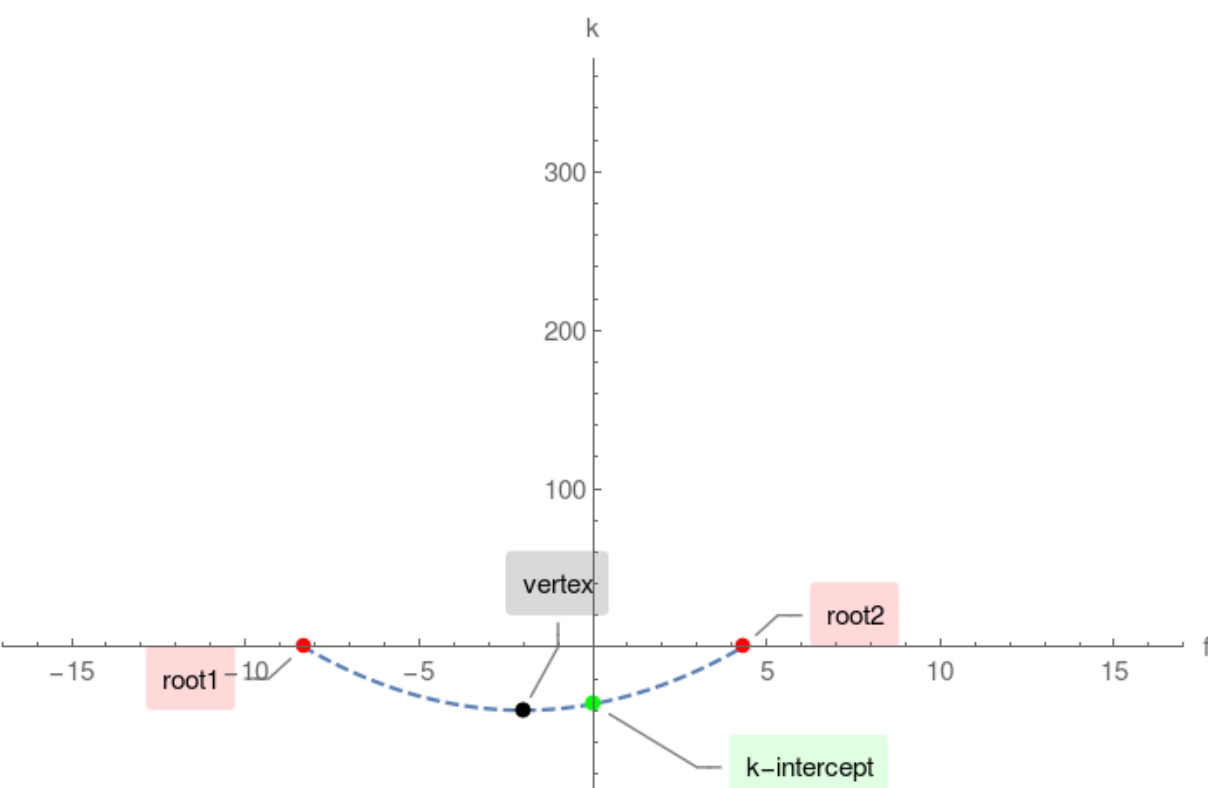
Compute f-intercepts by solving $f^2 + 4f - 36 = 0$:

$(-2 - 2\sqrt{10}, 0)$, $(-2 + 2\sqrt{10}, 0)$



Step 4.

connect the above computed points:



Step 5.

Extend the parabola beyond the range of intercepts

