

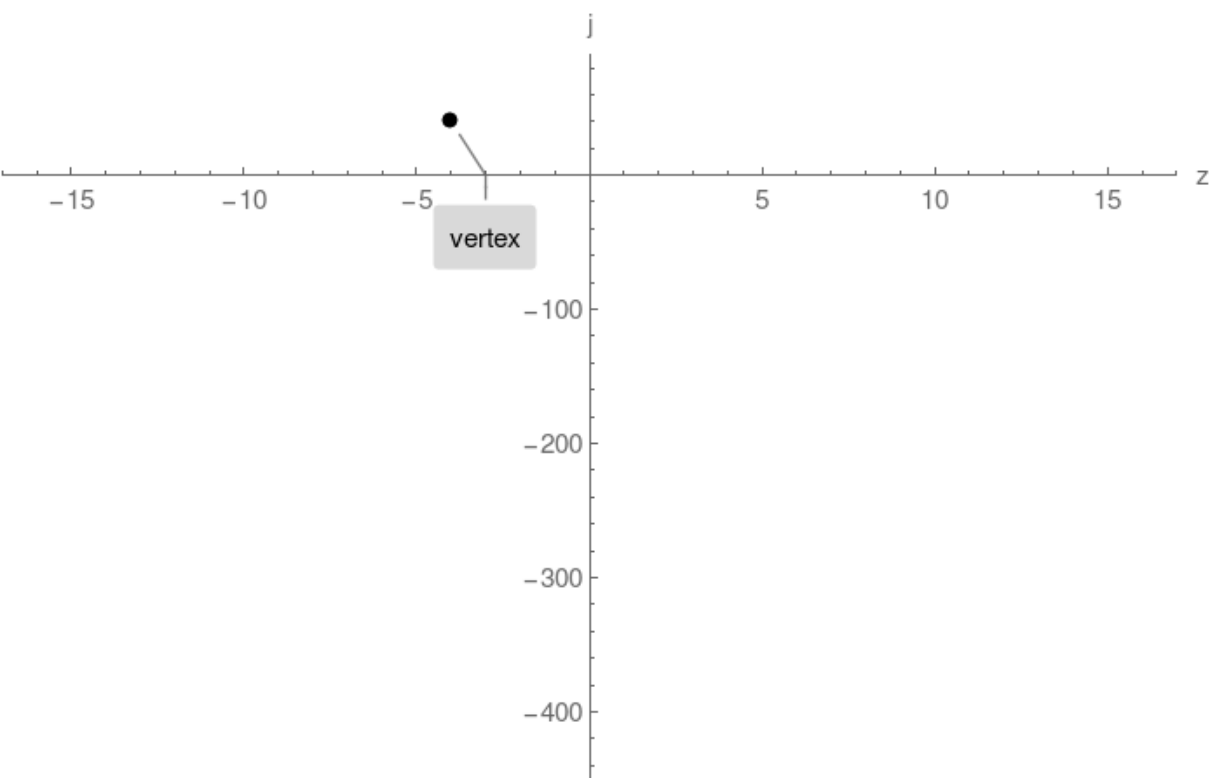
Example 1. 2 horizontal intercepts found

Plot $j(z) = -z^2 - 8z + 24$

Step 1.

Compute vertex and plot single point:

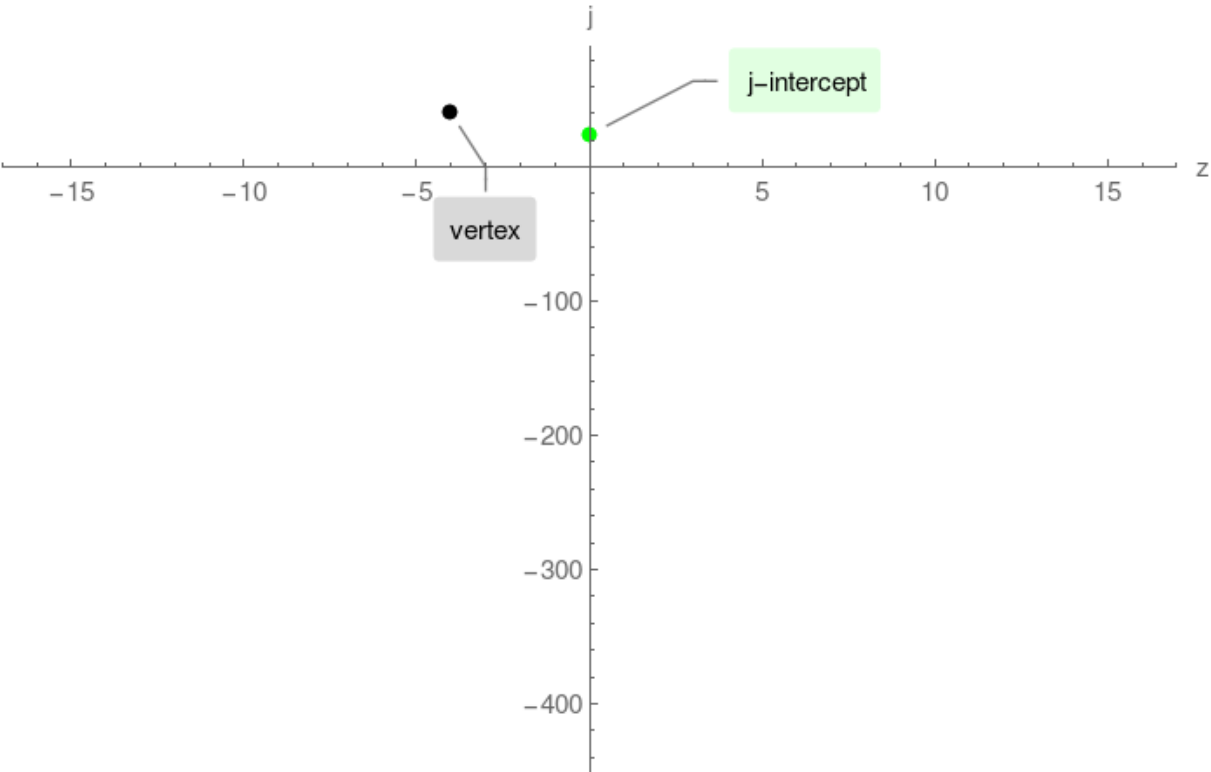
vertex = $(-4, 40)$



Step 2.

Compute j-intercept and plot single point:

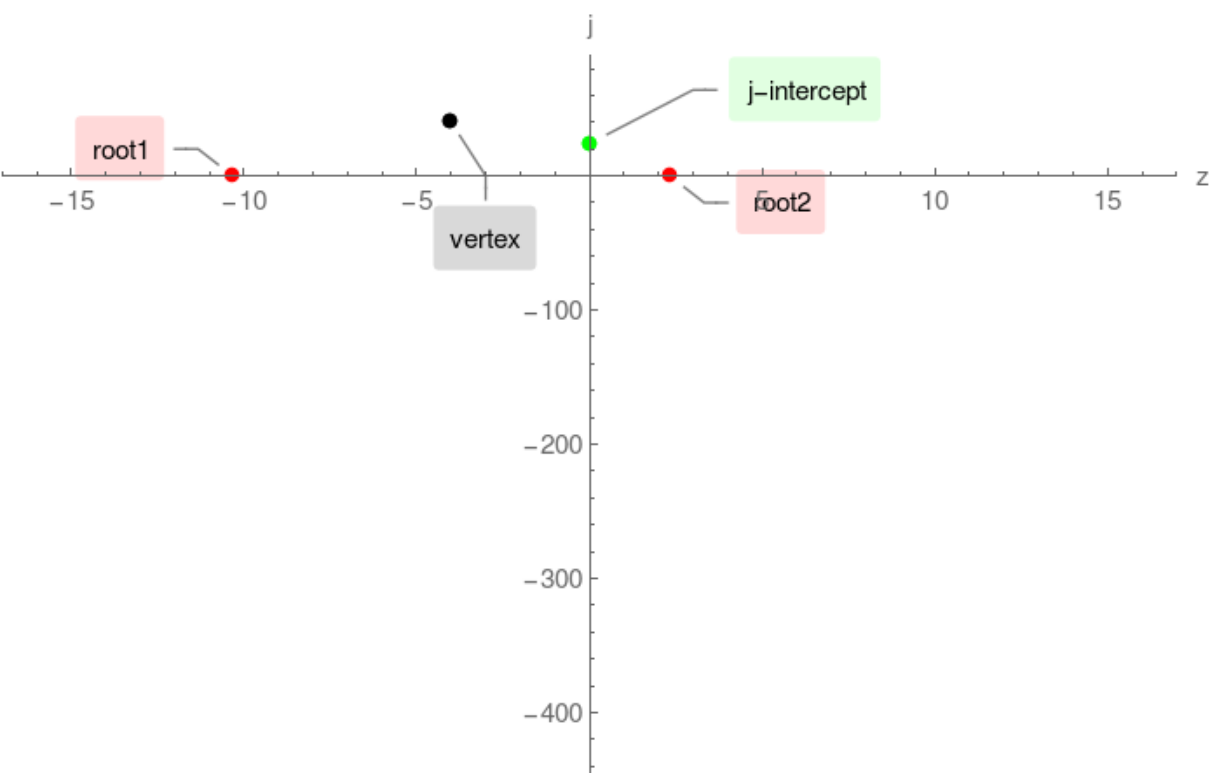
j-intercept = $(0, 24)$



Step 3.

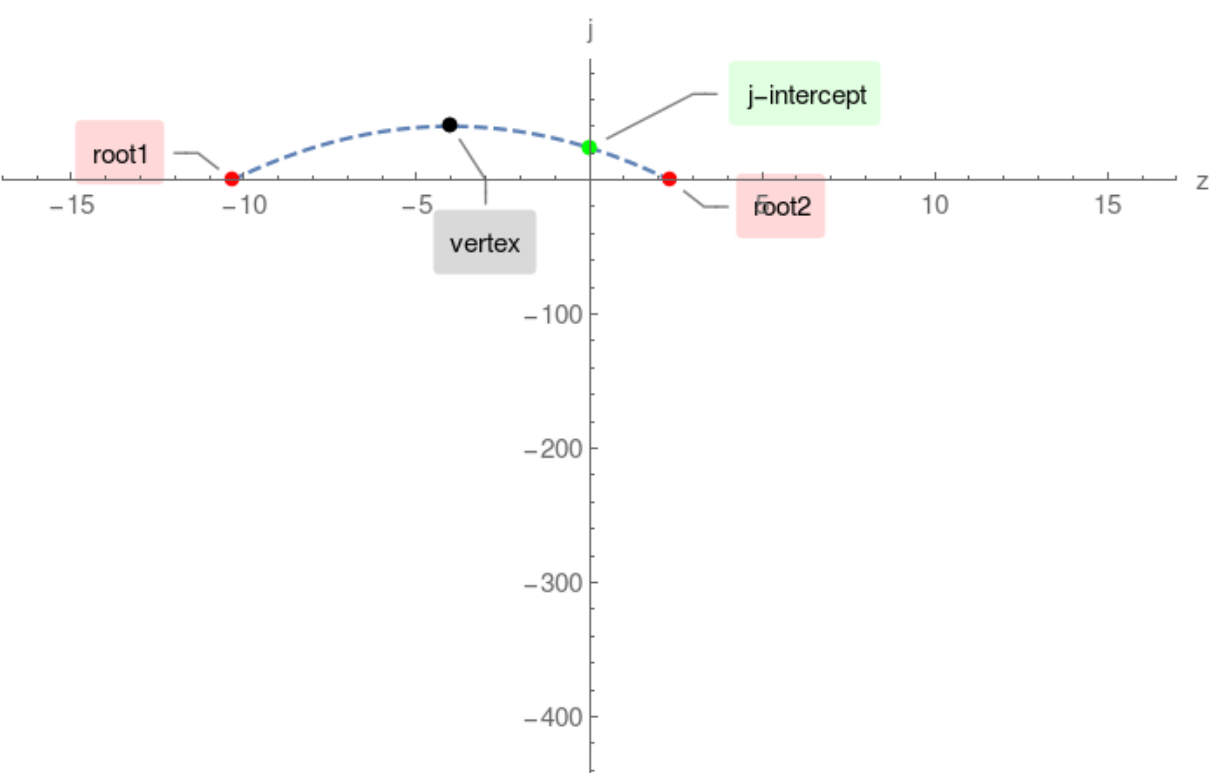
Compute z-intercepts by solving $-z^2 - 8z + 24 = 0$:

$(-4 - 2\sqrt{10}, 0)$, $(-4 + 2\sqrt{10}, 0)$



Step 4.

connect the above computed points:



Step 5.

Extend the parabola beyond the range of intercepts

