Example 1. 2 horizontal intercepts found
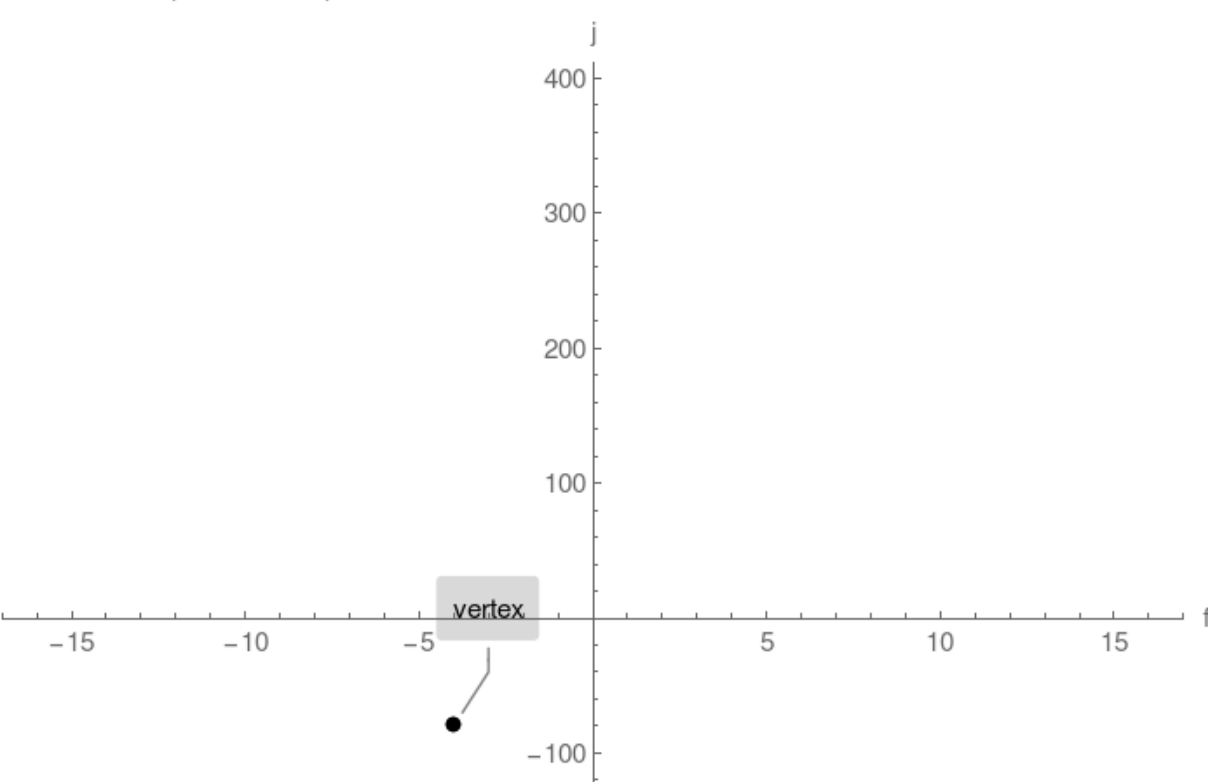
Plot $j(f) = f^2 + 8f - 64$

Step 1.
Compute vertex and plot single point:
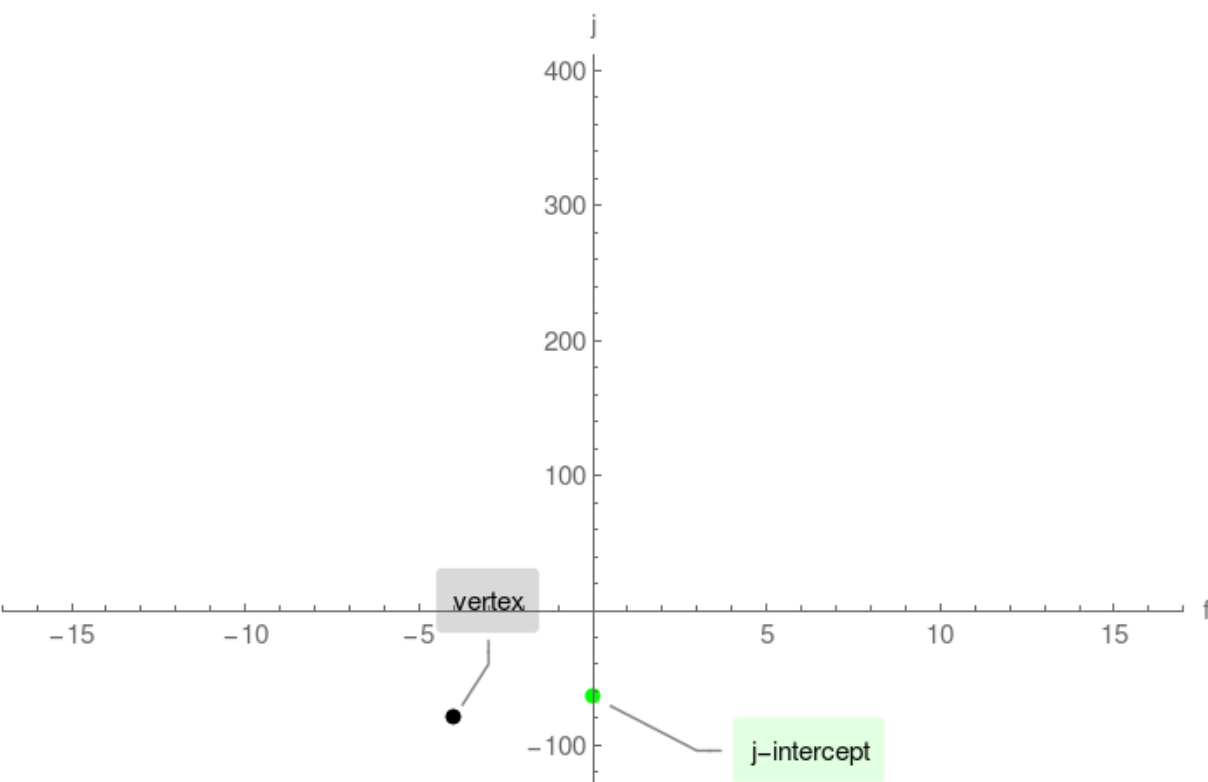vertex = $(-4, -80)$

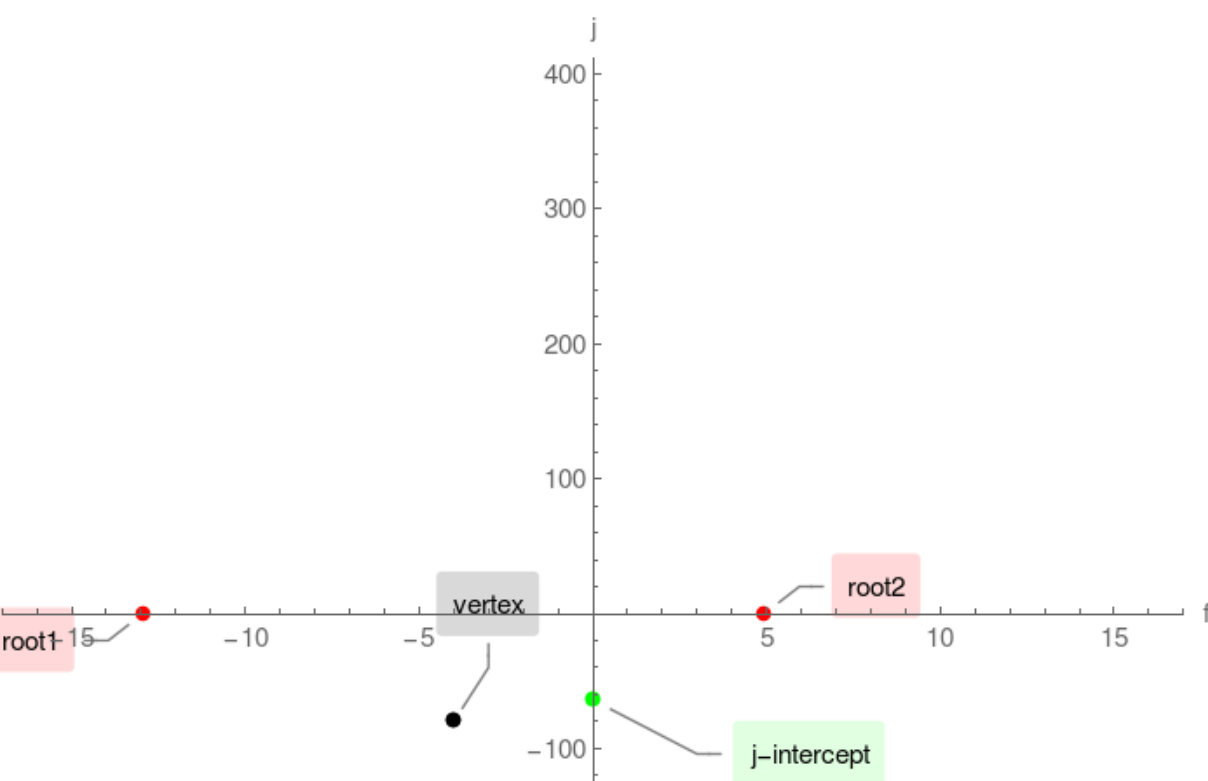**Step 2.**
Compute j-intercept and plot single point:
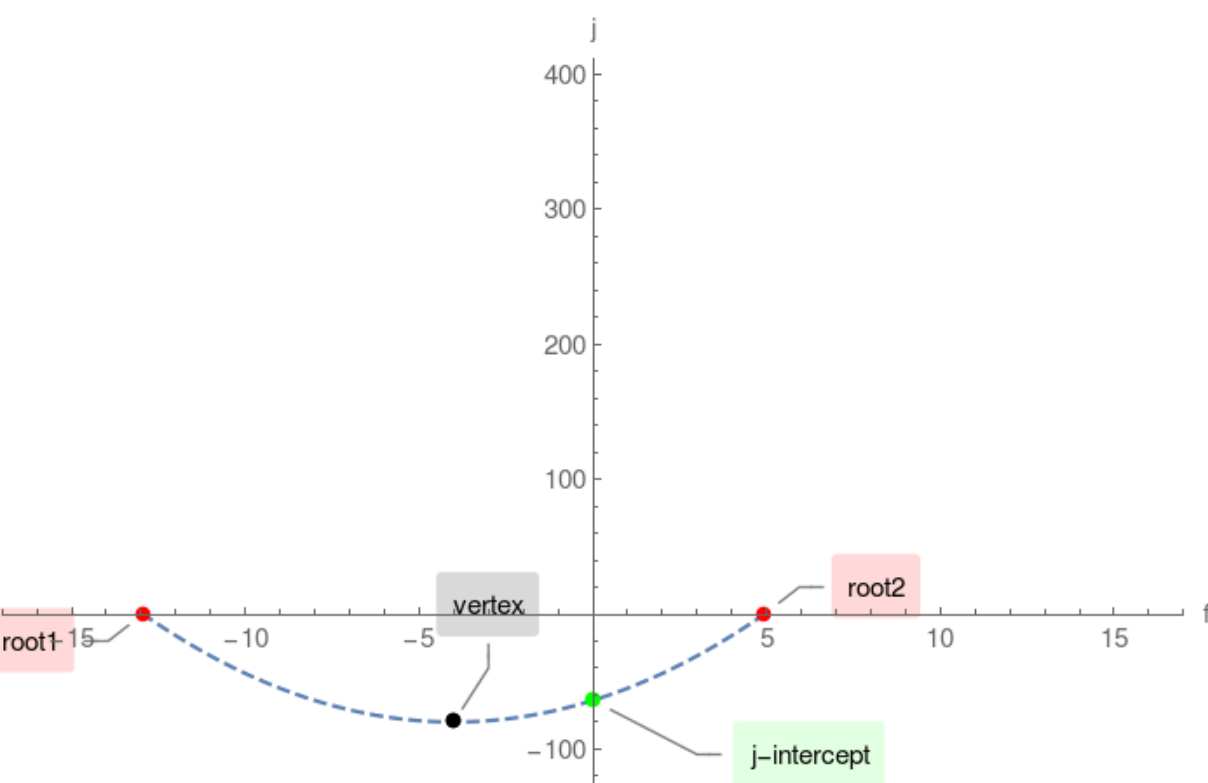j-intercept = $(0, -64)$

Step 3.
Compute f-intercepts by solving $f^2 + 8f - 64 = 0$:
$(-4 - 4\sqrt{5}, 0)$, $(-4 + 4\sqrt{5}, 0)$

Step 4.
connect the above computed points:

Step 5.
Extend the parabola beyond the range of intercepts