Example 1. 2 horizontal intercepts found
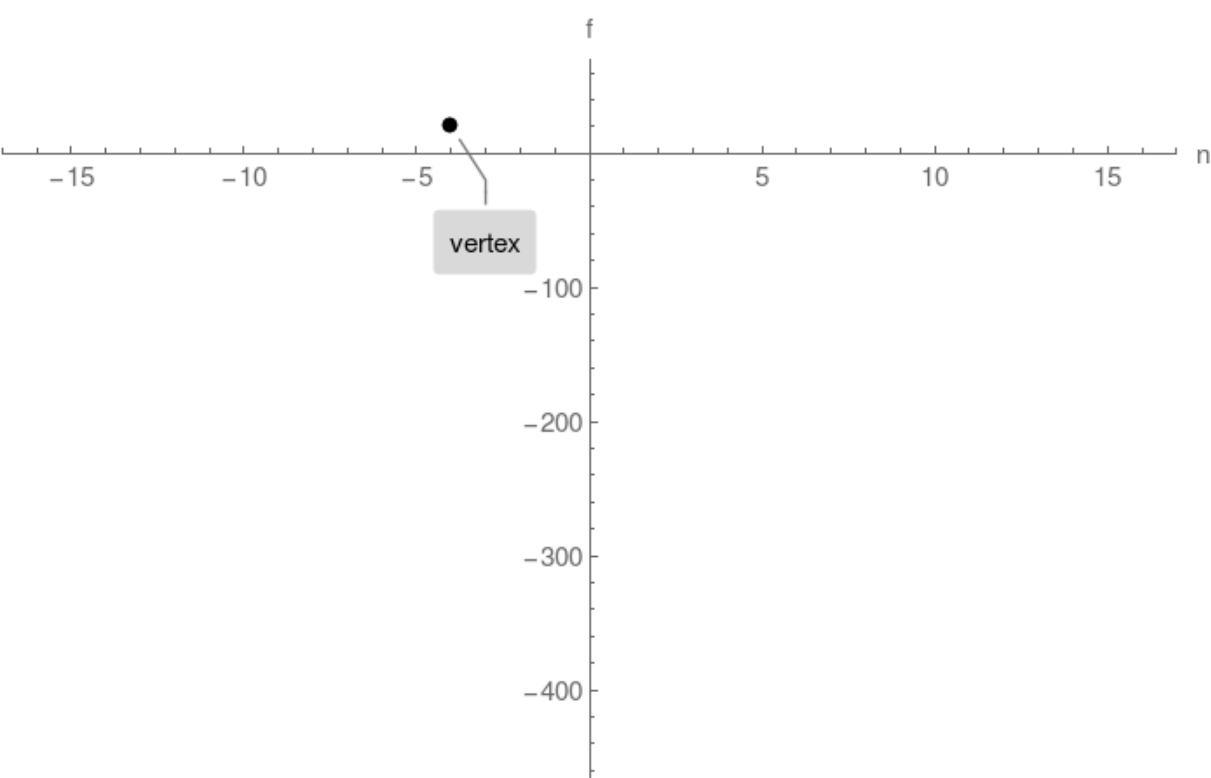
Plot $f(n) = -n^2 - 8n + 4$

Step 1.
Compute vertex and plot single point:
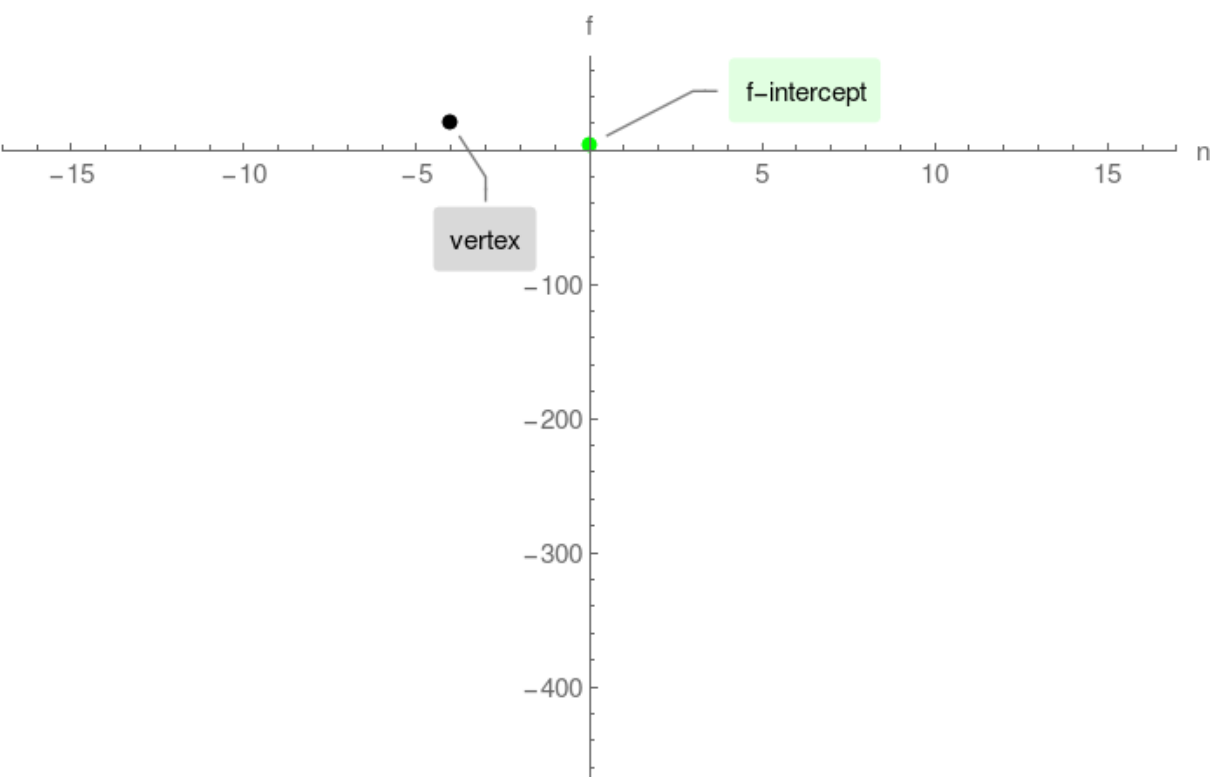vertex = $(-4, 20)$

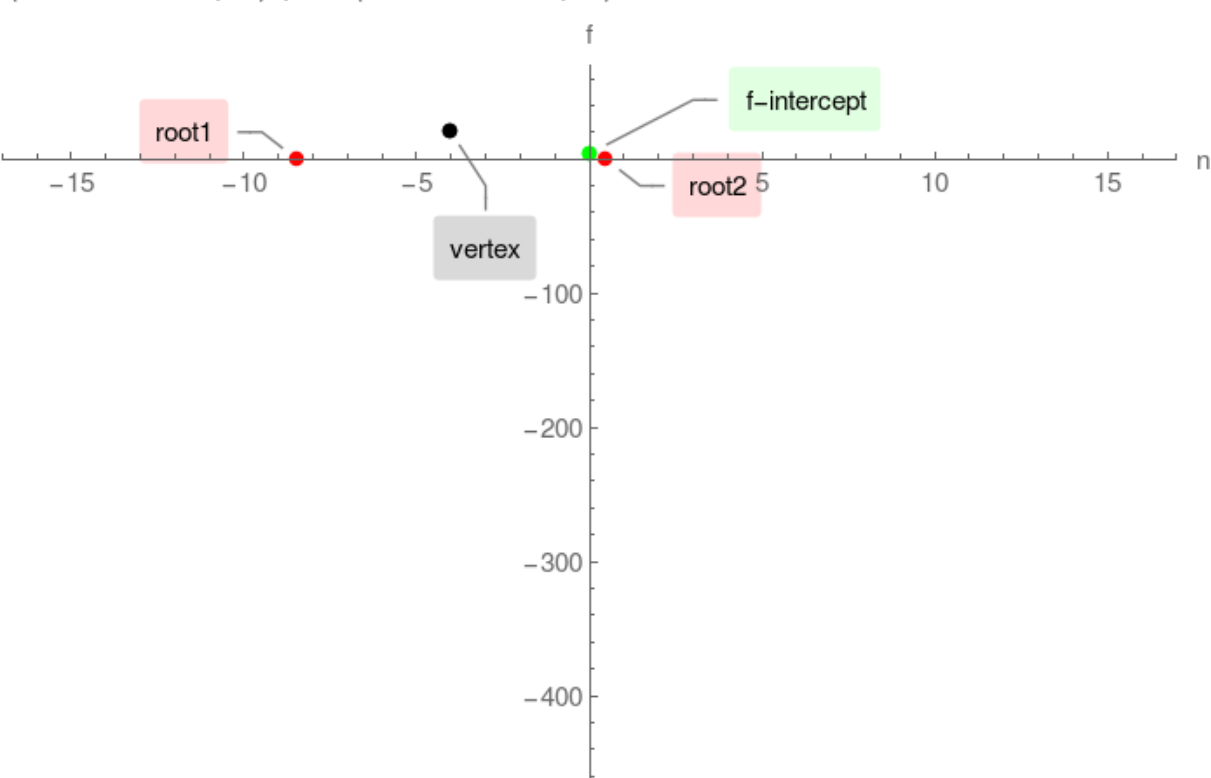**Step 2.**
Compute f-intercept and plot single point:
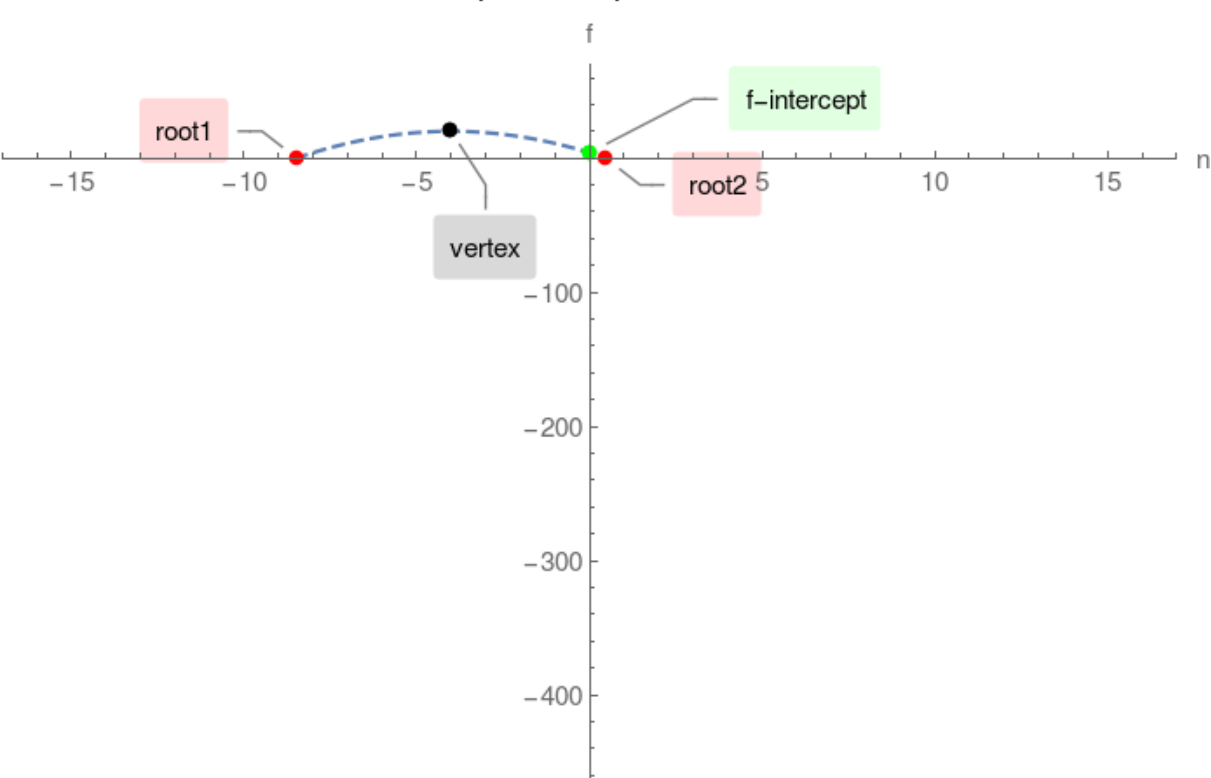f-intercept = $(0, 4)$

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

Step 4.
connect the above computed points:

Step 5.
Extend the parabola beyond the range of intercepts