Example 1. 2 horizontal intercepts found
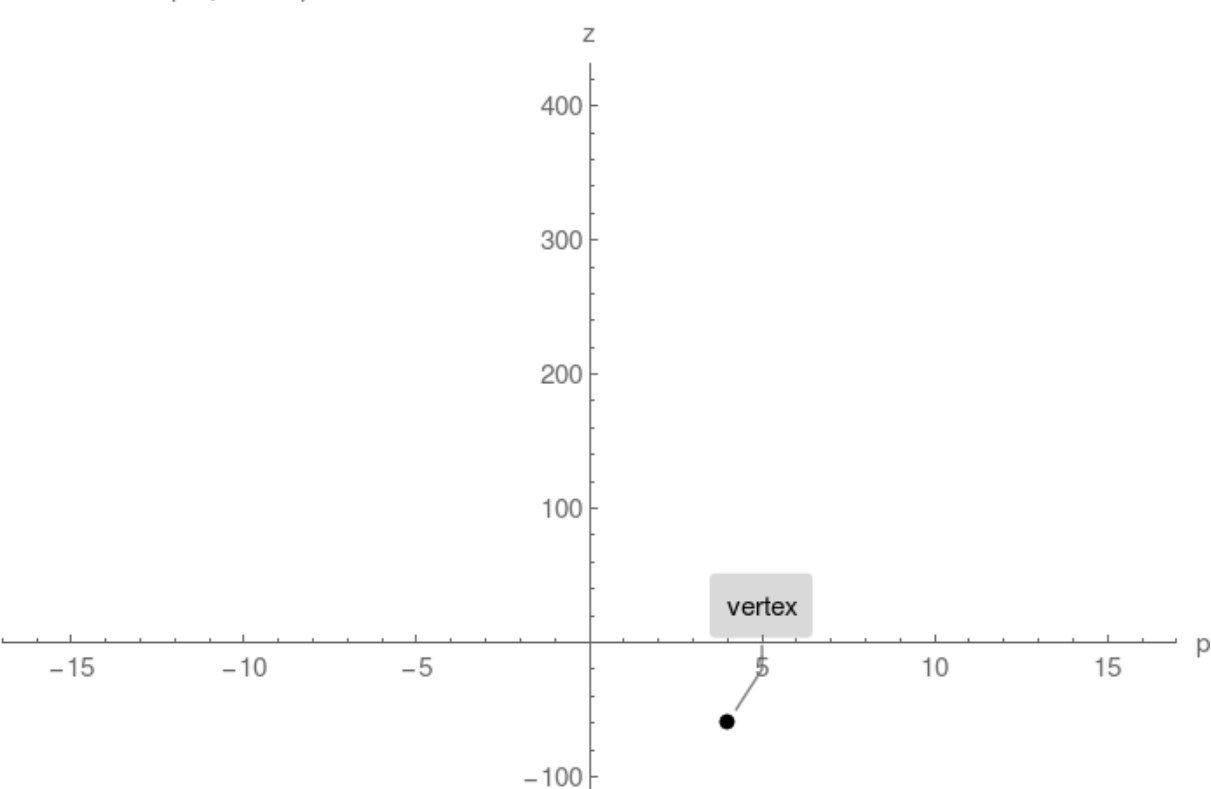
Plot $z(p) = p^2 - 8p - 44$

Step 1.
Compute vertex and plot single point:
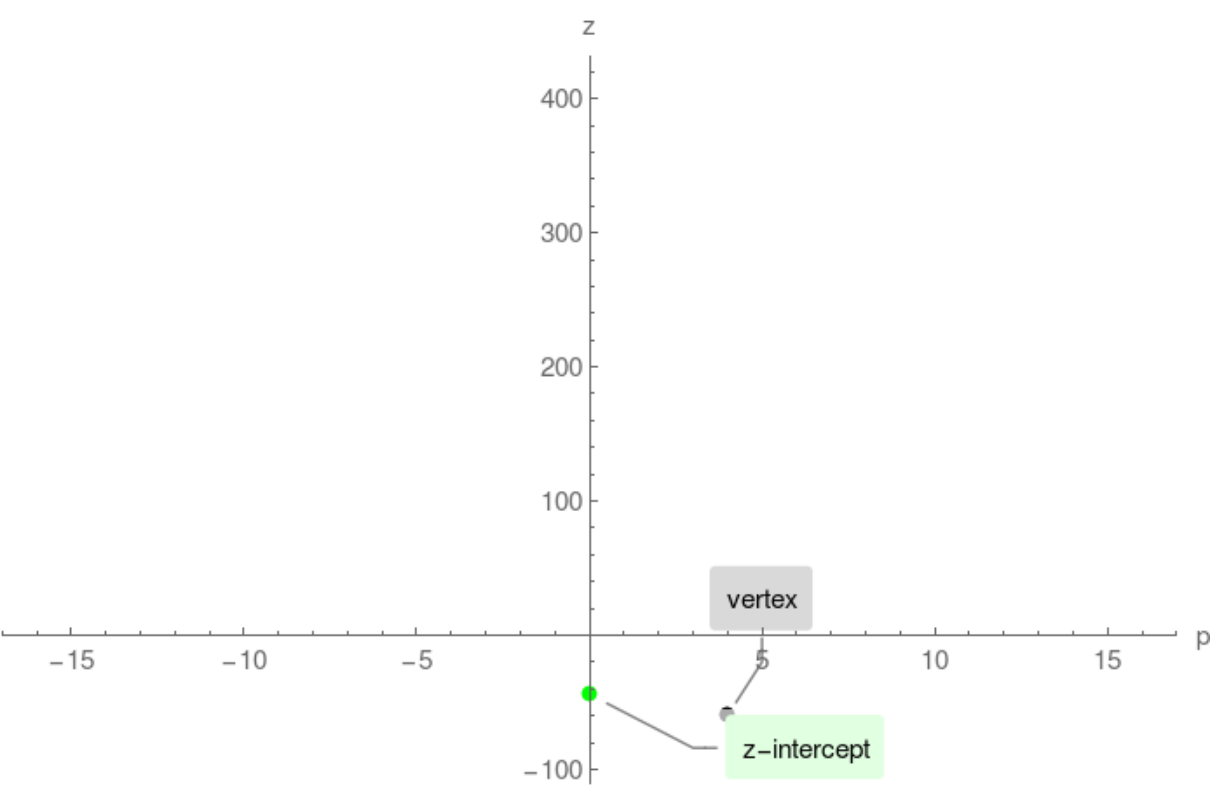vertex = $(4, -60)$

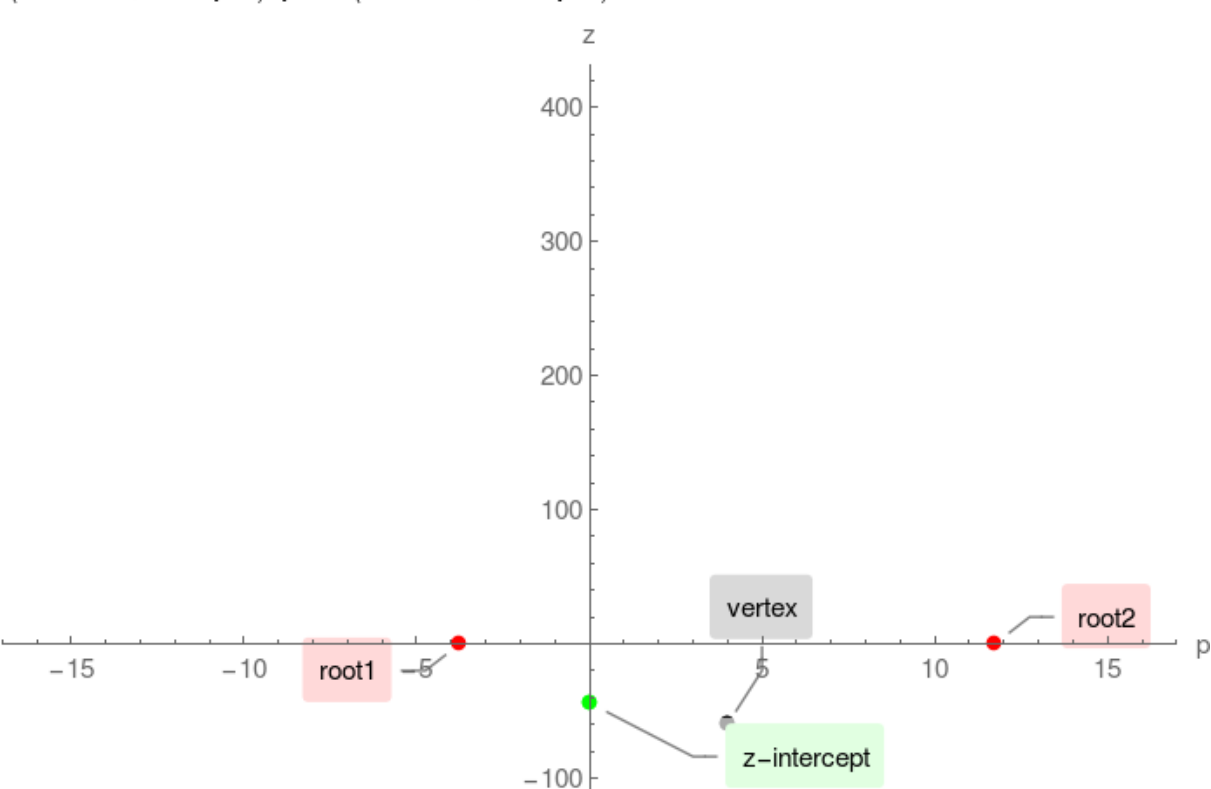**Step 2.**
Compute z-intercept and plot single point:
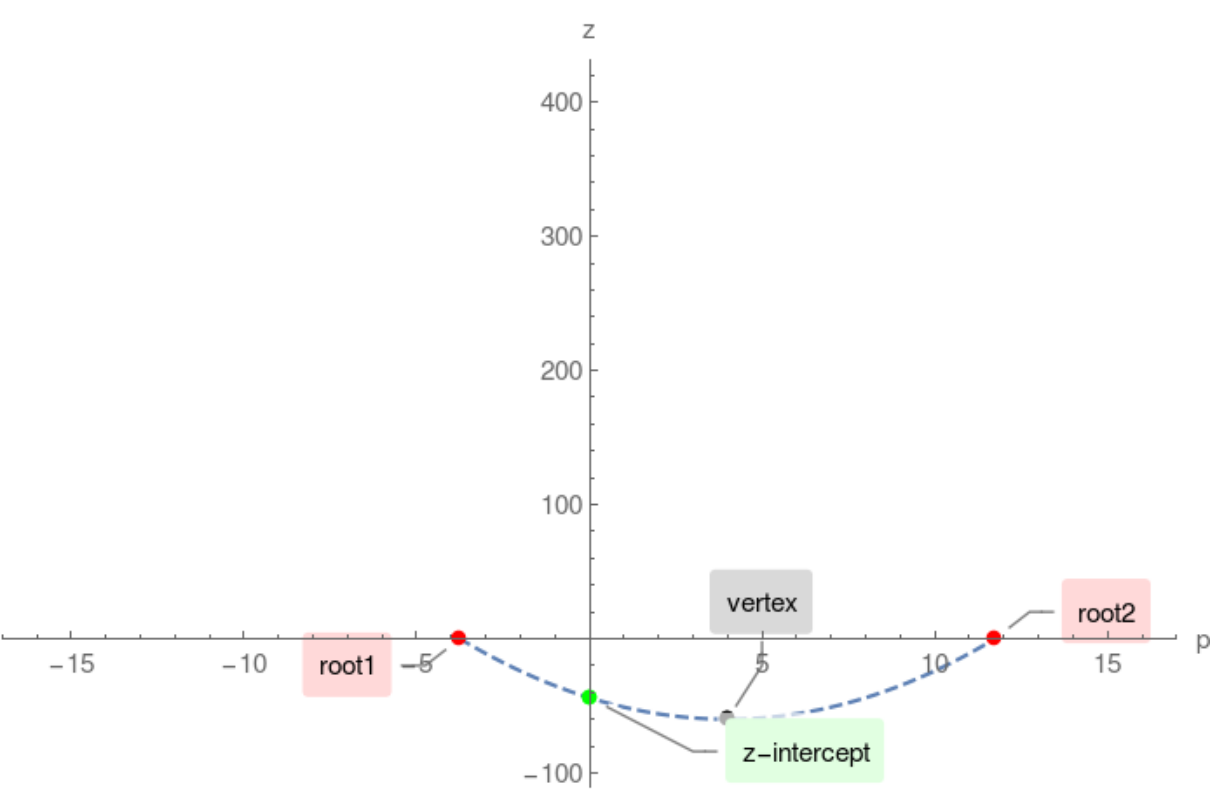z-intercept = $(0, -44)$

Step 3.
Compute p-intercepts by solving $p^2 - 8p - 44 = 0$:
$(4 - 2\sqrt{15}, 0)$, $(4 + 2\sqrt{15}, 0)$

Step 4.
connect the above computed points:

Step 5.
Extend the parabola beyond the range of intercepts