

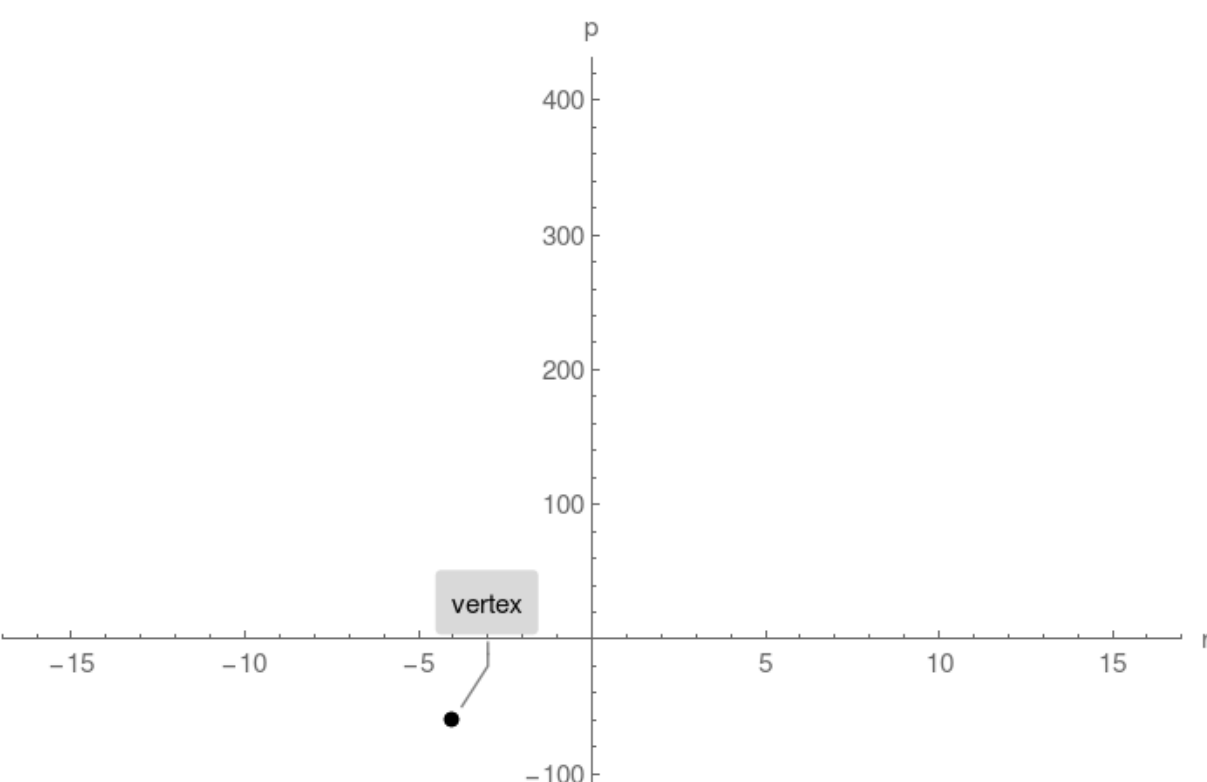
Example 1. 2 horizontal intercepts found

Plot $p(r) = r^2 + 8r - 44$

Step 1.

Compute vertex and plot single point:

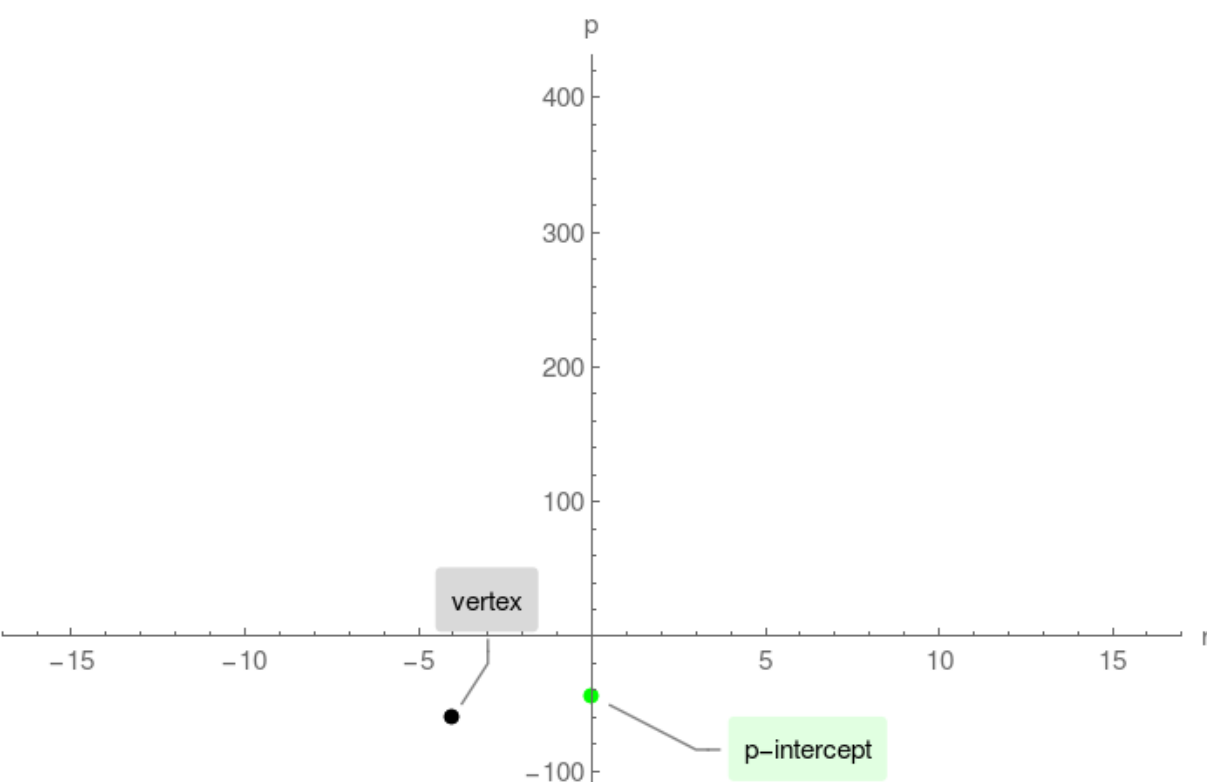
vertex = $(-4, -60)$



Step 2.

Compute p-intercept and plot single point:

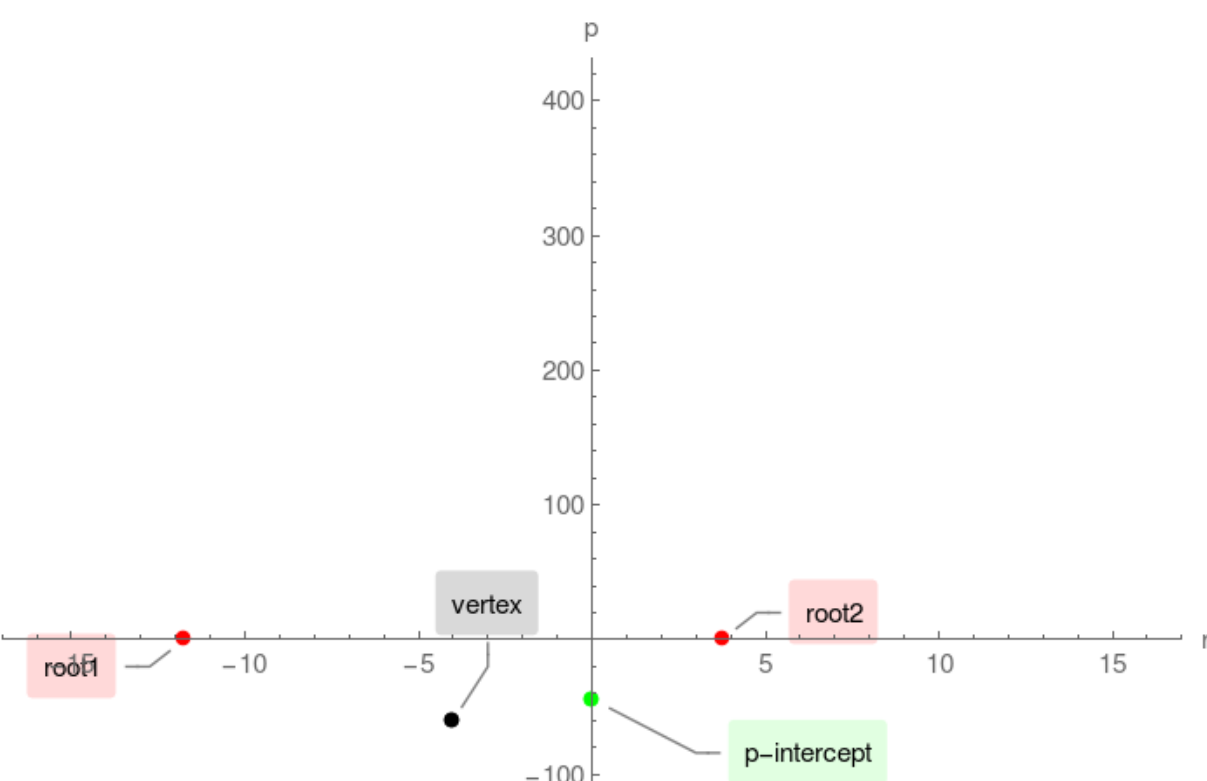
p-intercept = $(0, -44)$



Step 3.

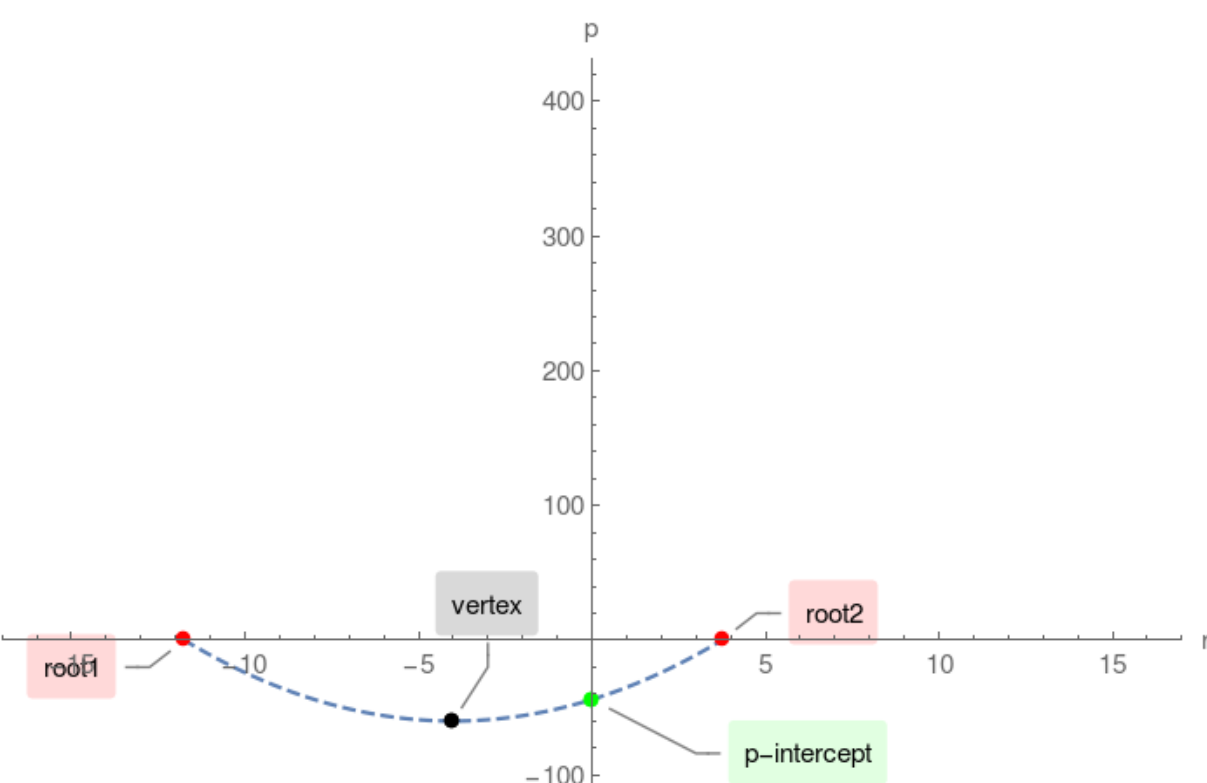
Compute r-intercepts by solving $r^2 + 8r - 44 = 0$:

$(-4 - 2\sqrt{15}, 0)$, $(-4 + 2\sqrt{15}, 0)$



Step 4.

connect the above computed points:



Step 5.

Extend the parabola beyond the range of intercepts

