

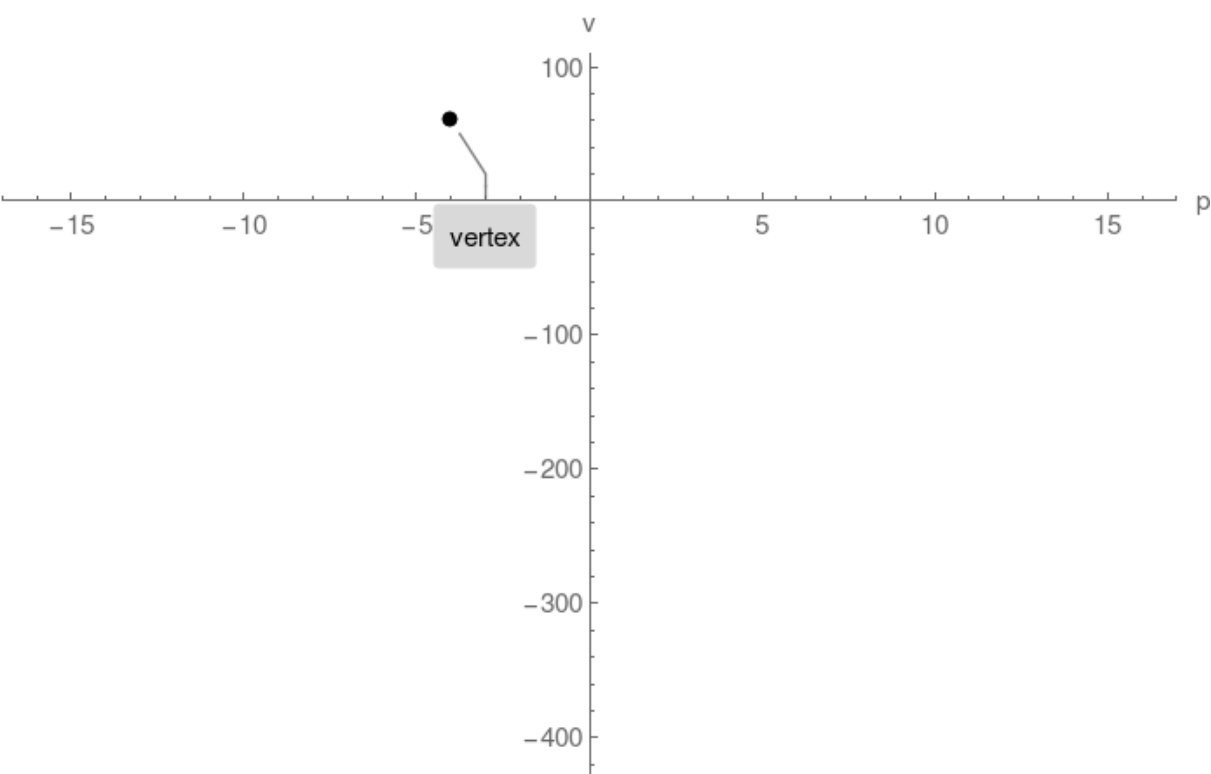
## Example 1. 2 horizontal intercepts found

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

### Step 1.

Compute vertex and plot single point:

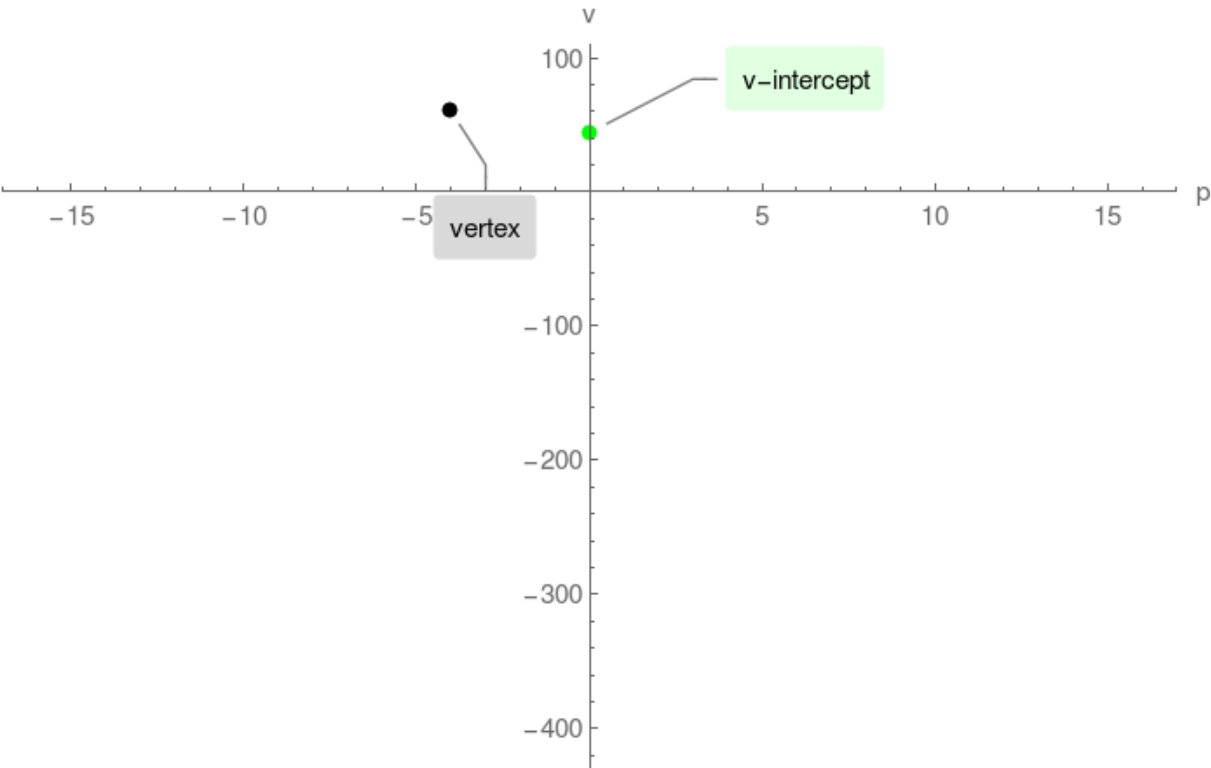
vertex =  $(-4, 60)$



### Step 2.

Compute v-intercept and plot single point:

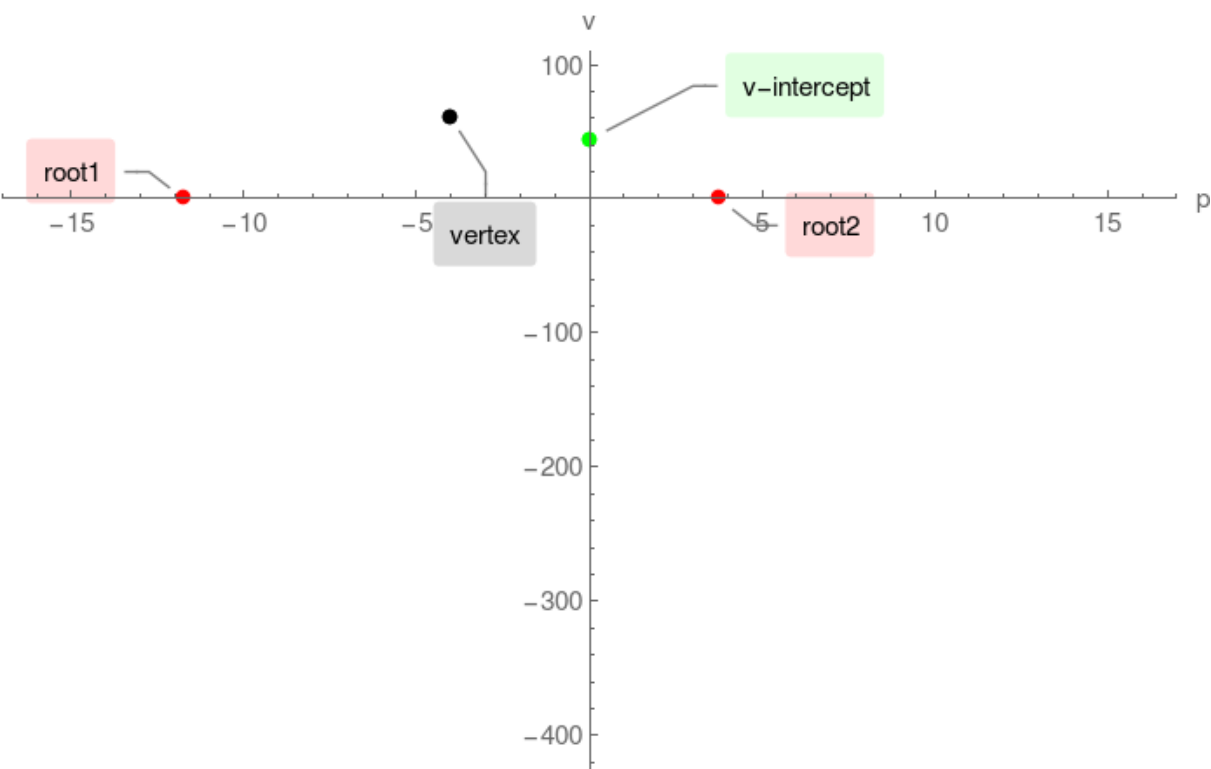
v-intercept =  $(0, 44)$



### Step 3.

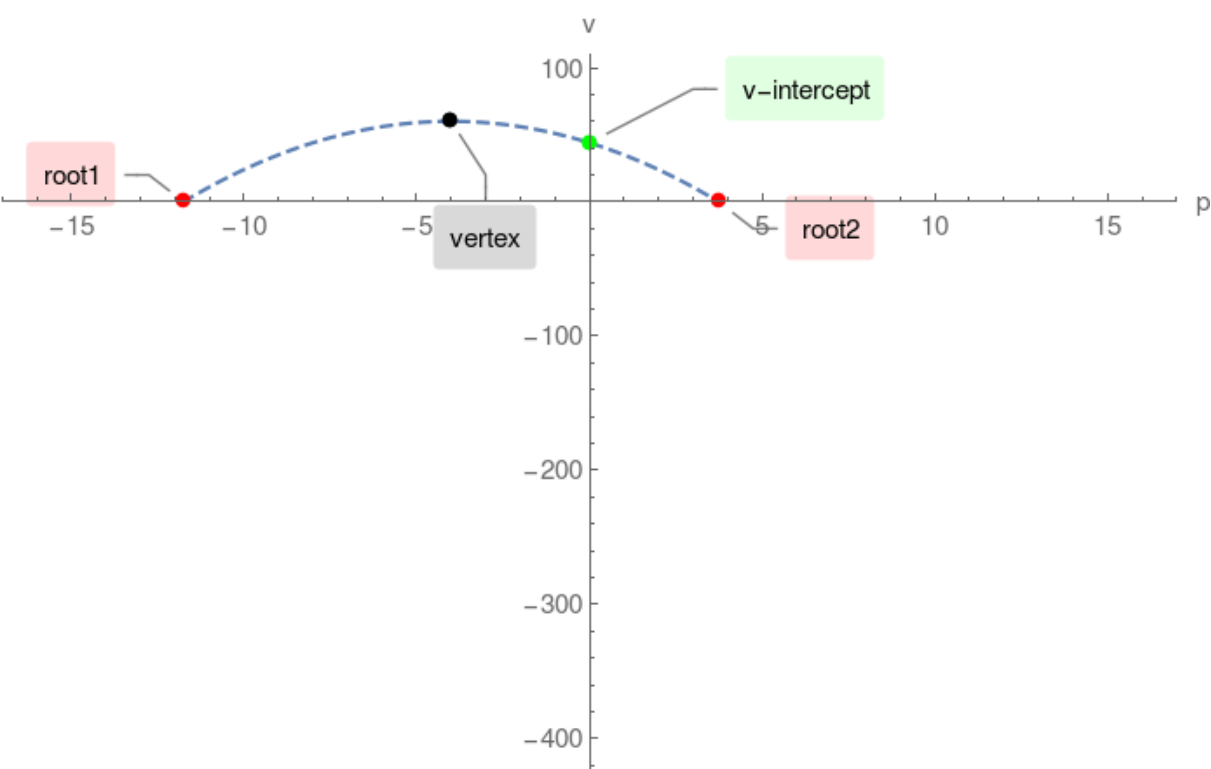
Compute p-intercepts by solving  $-p^2 - 8p + 44 = 0$ :

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



### Step 4.

connect the above computed points:



### Step 5.

Extend the parabola beyond the range of intercepts

