

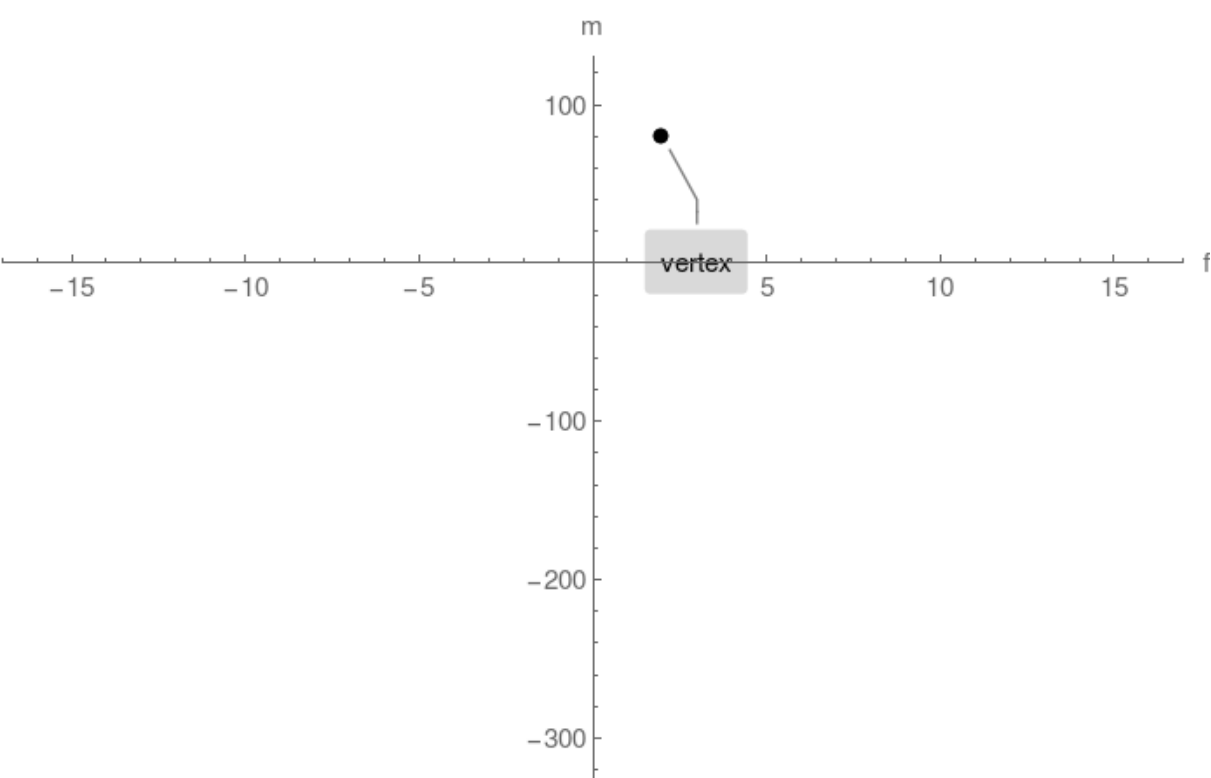
## Example 1. 2 horizontal intercepts found

Plot  $m(f) = -f^2 + 4f + 76$

### Step 1.

Compute vertex and plot single point:

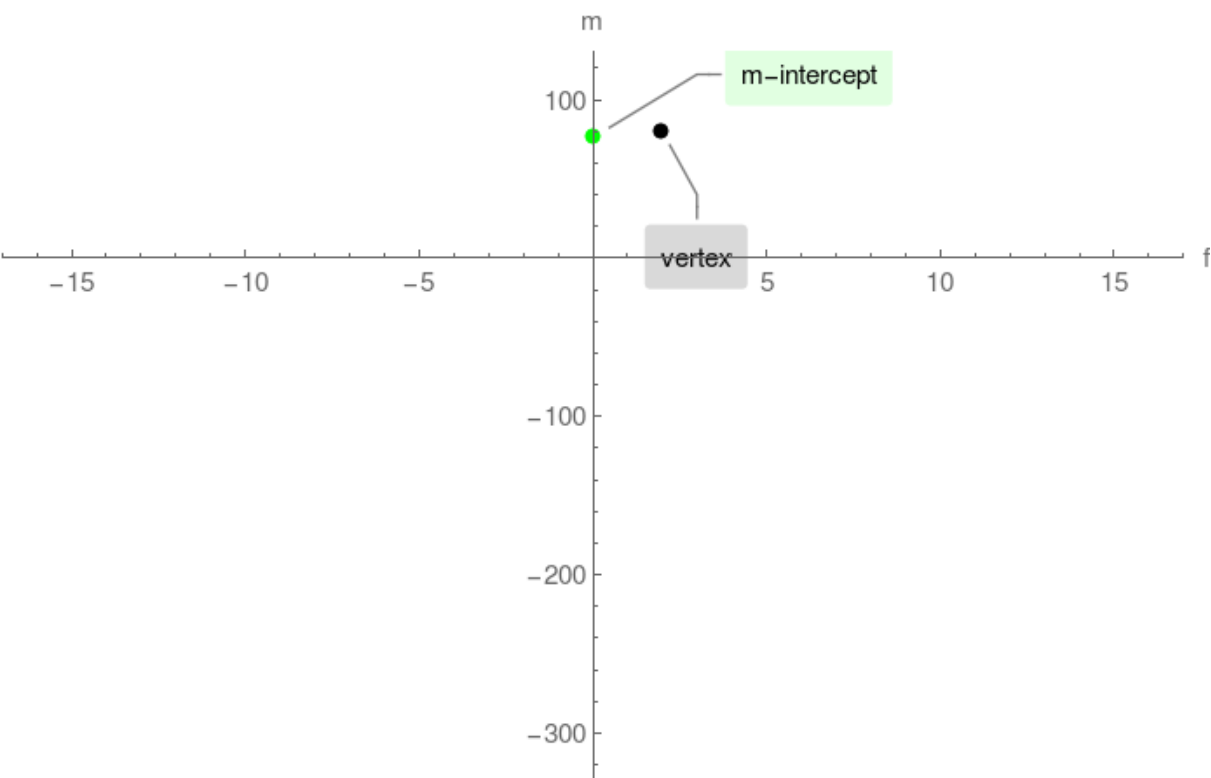
vertex = (2, 80)



### Step 2.

Compute m-intercept and plot single point:

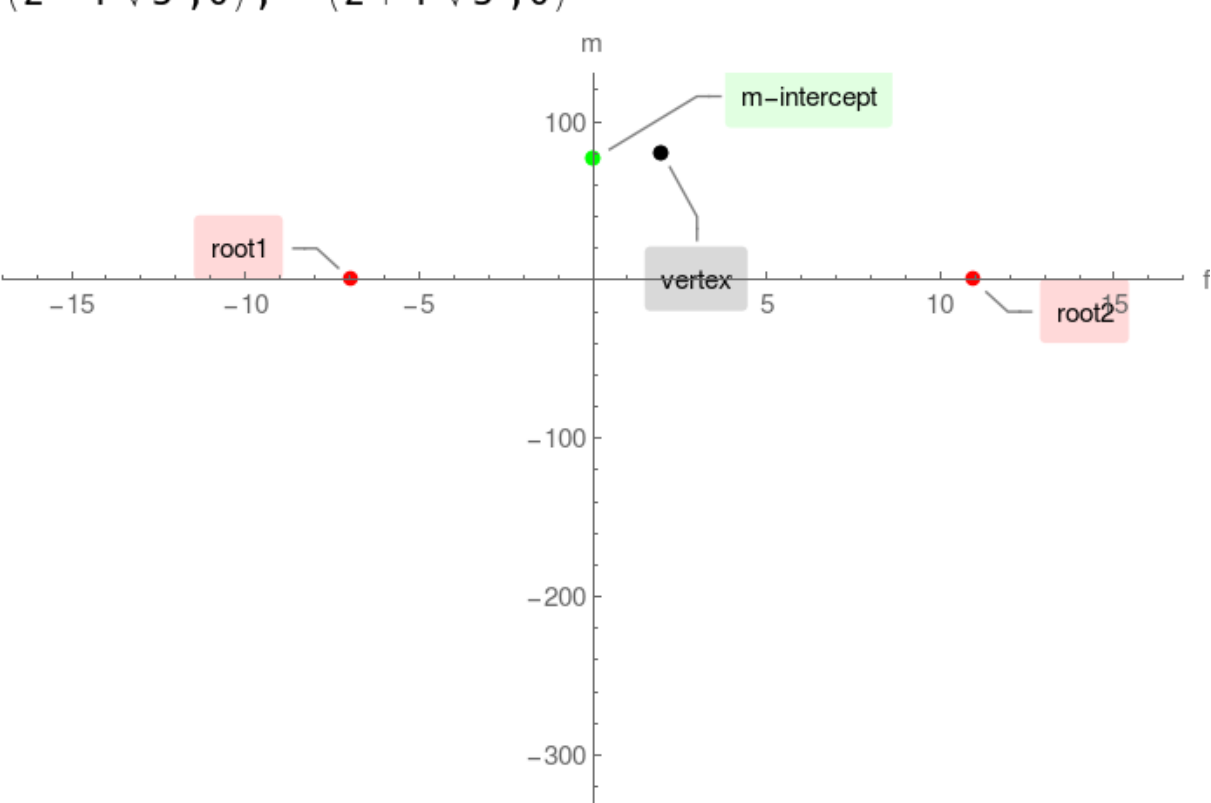
m-intercept = (0, 76)



### Step 3.

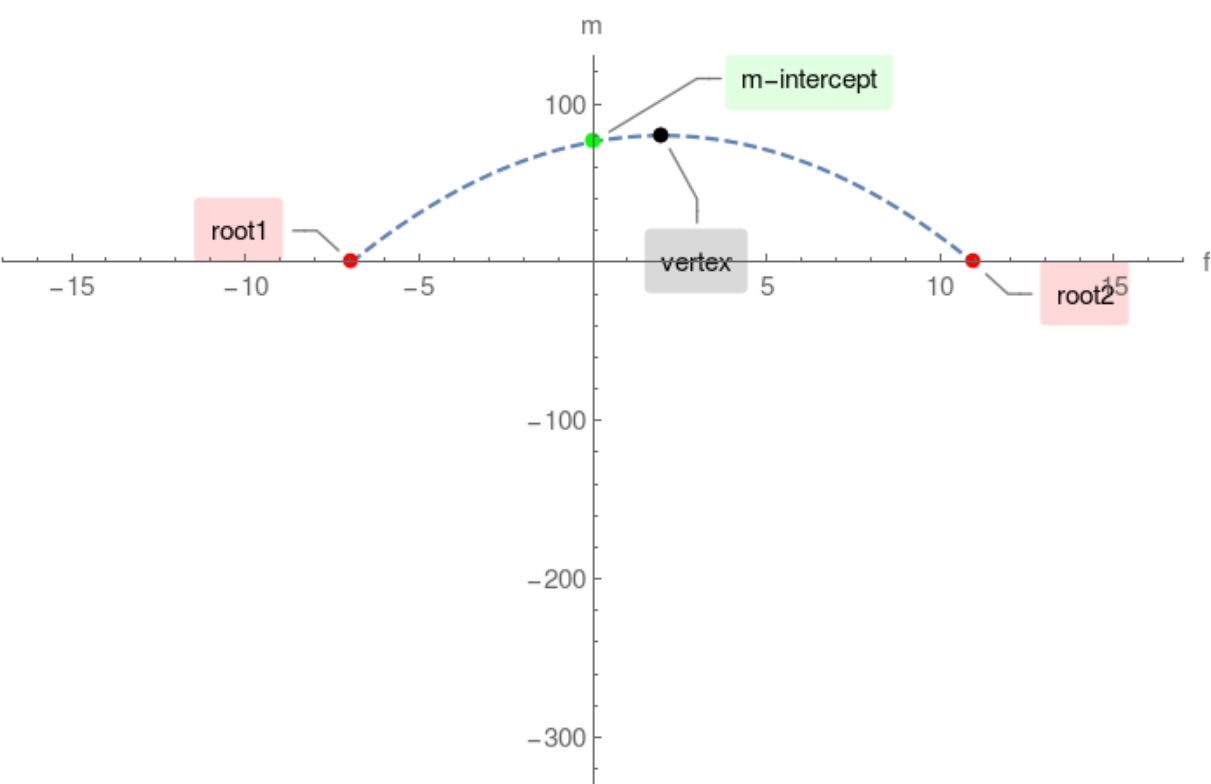
Compute f-intercepts by solving  $-f^2 + 4f + 76 = 0$ :

$(2 - 4\sqrt{5}, 0)$ ,  $(2 + 4\sqrt{5}, 0)$



### Step 4.

connect the above computed points:



### Step 5.

Extend the parabola beyond the range of intercepts

