

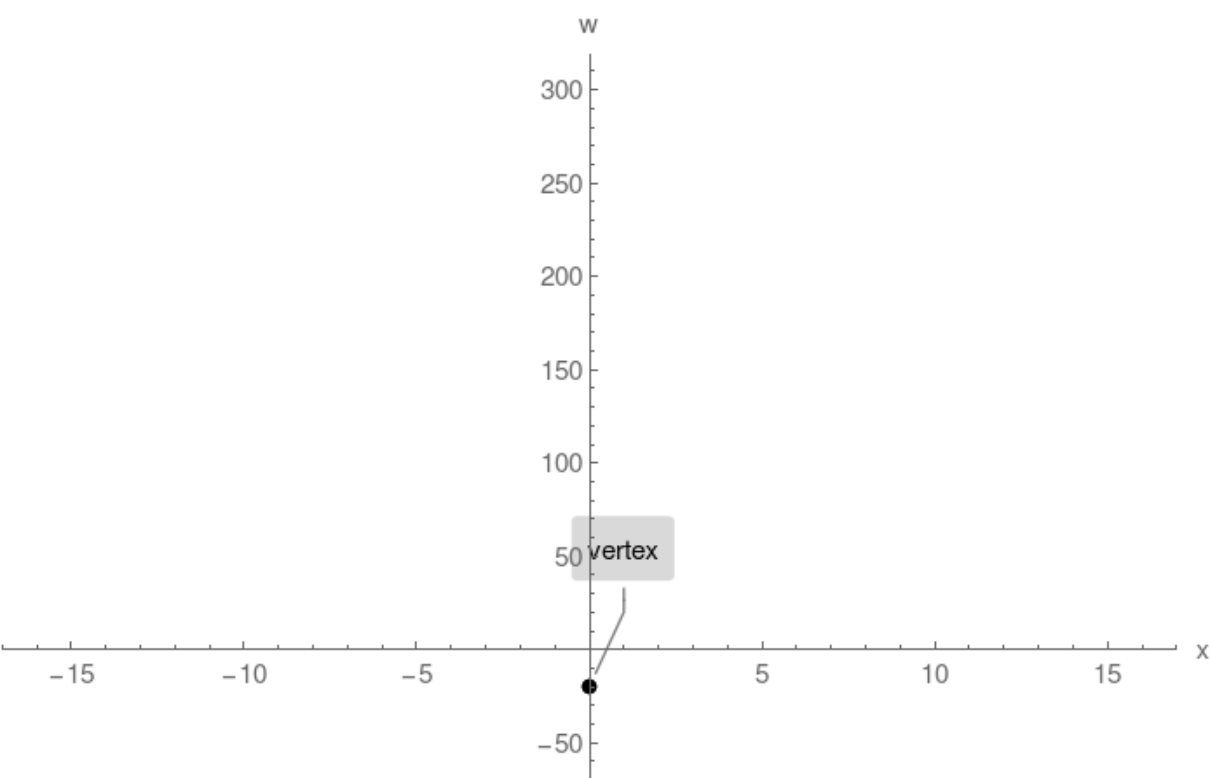
## Example 1. 2 horizontal intercepts found

Plot  $w(x) = x^2 - 20$

### Step 1.

Compute vertex and plot single point:

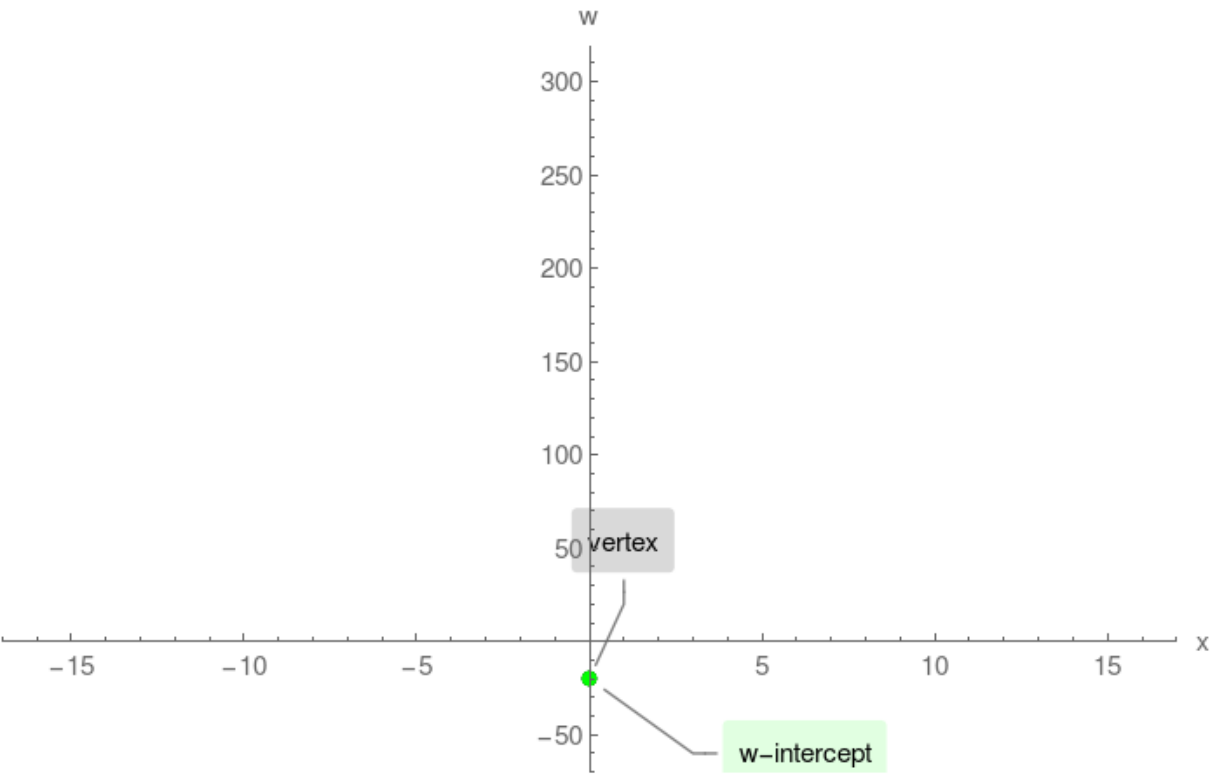
vertex =  $(0, -20)$



### Step 2.

Compute w-intercept and plot single point:

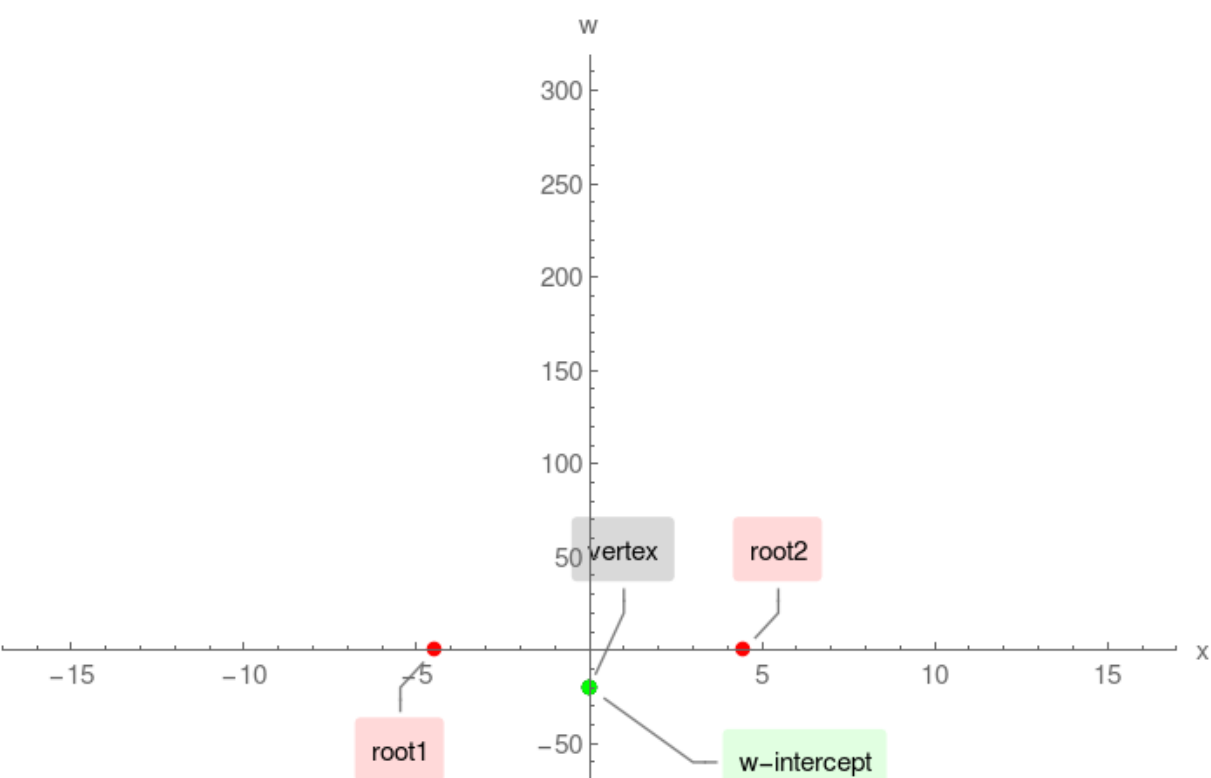
w-intercept =  $(0, -20)$



### Step 3.

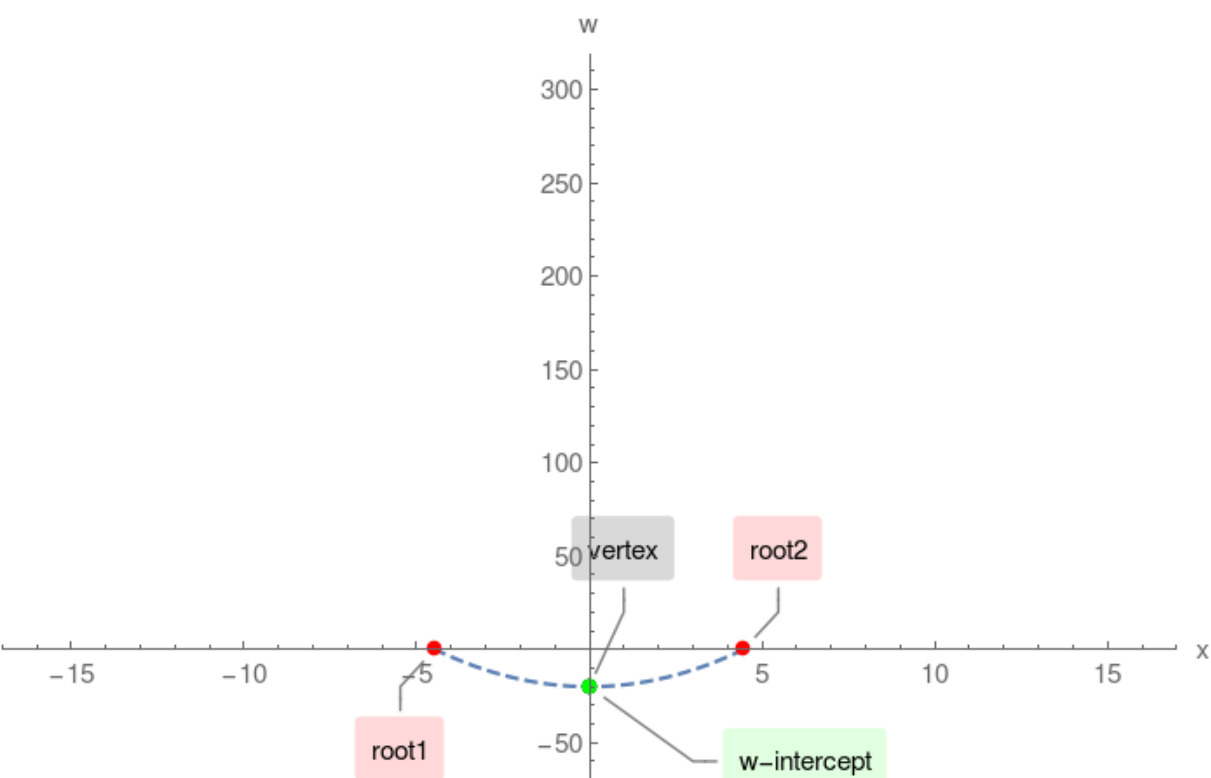
Compute x-intercepts by solving  $x^2 - 20 = 0$ :

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



### Step 4.

connect the above computed points:



### Step 5.

Extend the parabola beyond the range of intercepts

