

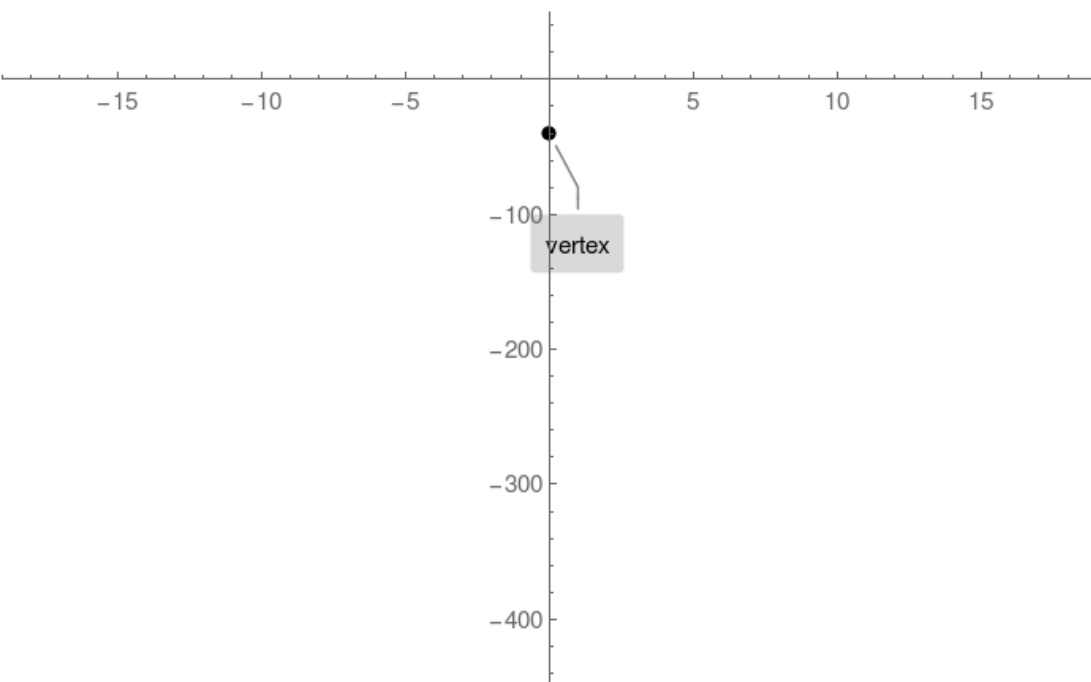
### Example 3. Vertex equal to vertical intercept

Plot  $k(y) = -y^2 - 40$

#### Step 1.

Compute vertex and plot single point:

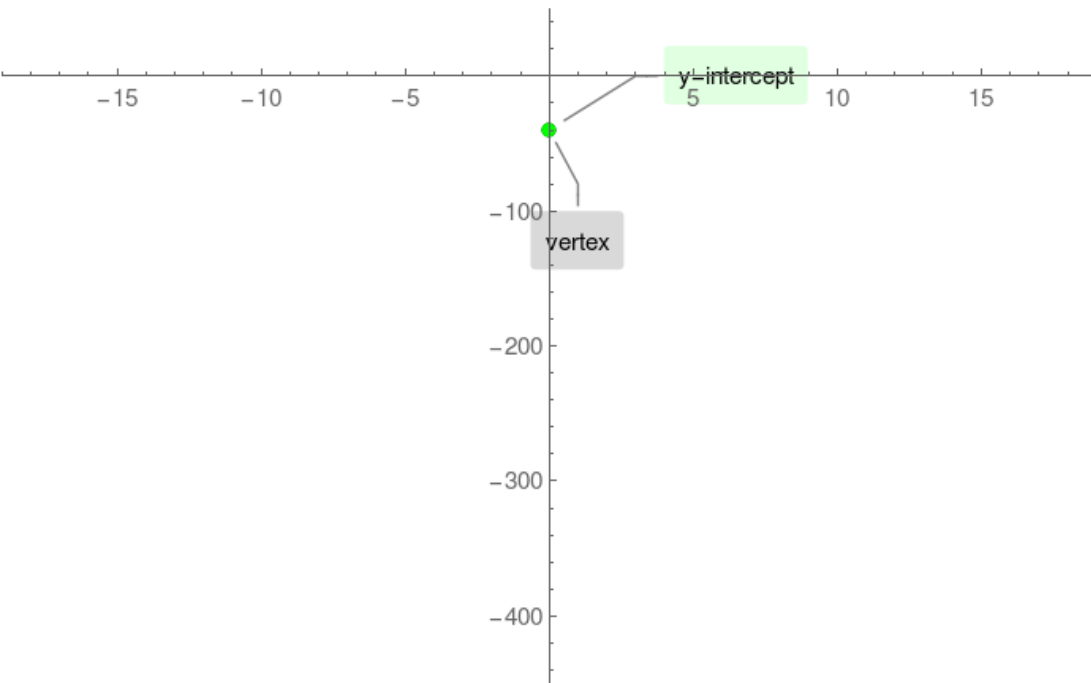
vertex =  $(0, -40)$



#### Step 2.

Compute k-intercept and plot single point:

k-intercept =  $(0, -40)$

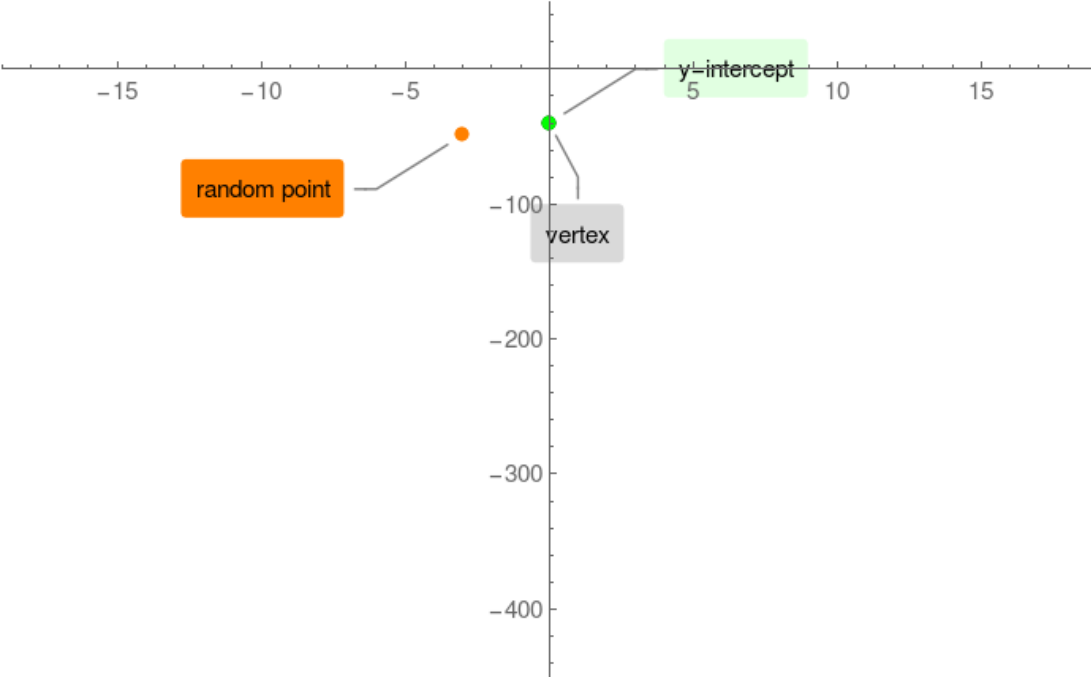


#### Step 3.

There are no y-intercepts!

Instead compute an arbitrary point on any side of vertex:

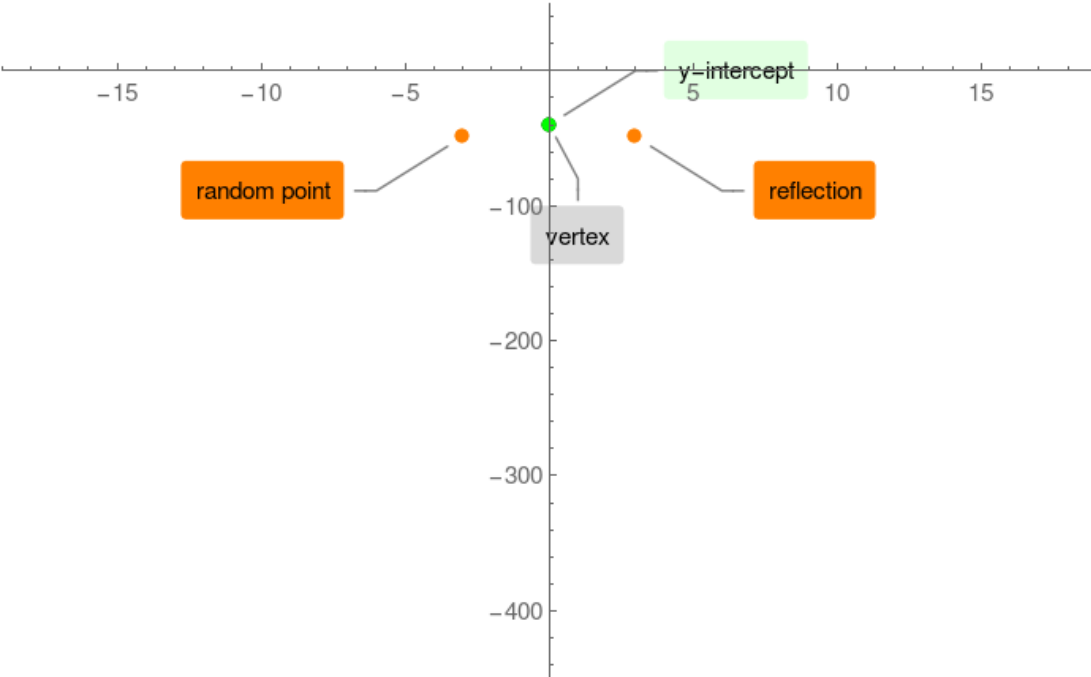
Random point =  $(-3, -49)$



#### Step 4.

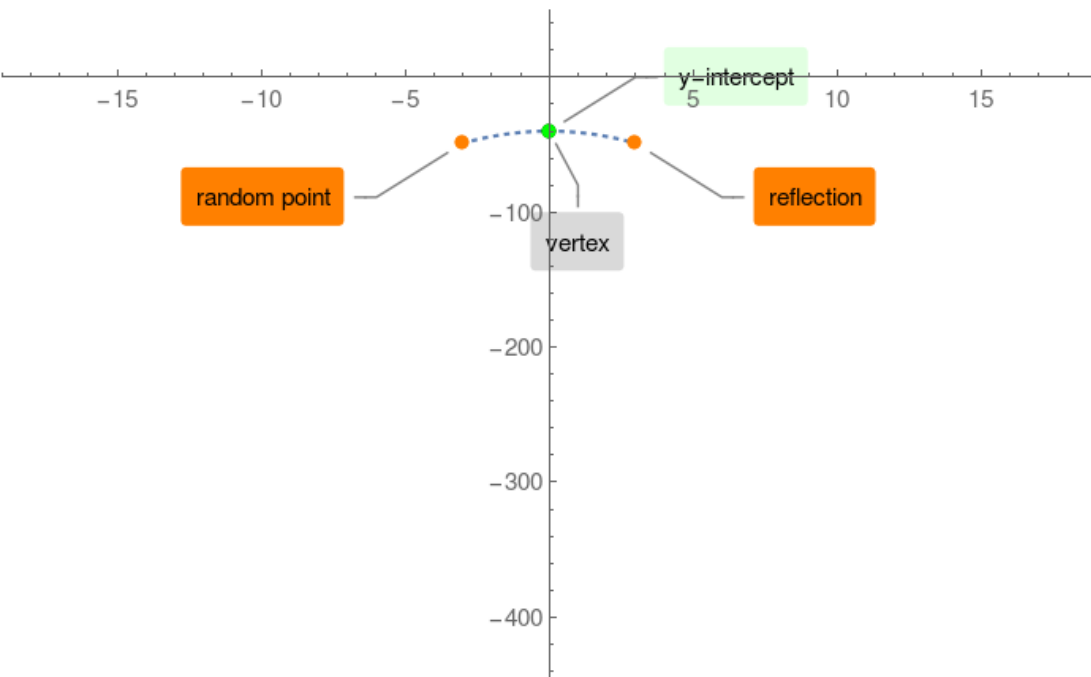
Reflect the point against the vertex's vertical axes:

Reflection =  $(3, -49)$



#### Step 5.

connect the above computed points:



#### Step 6.

Extend the parabola beyond the range of intercepts

