

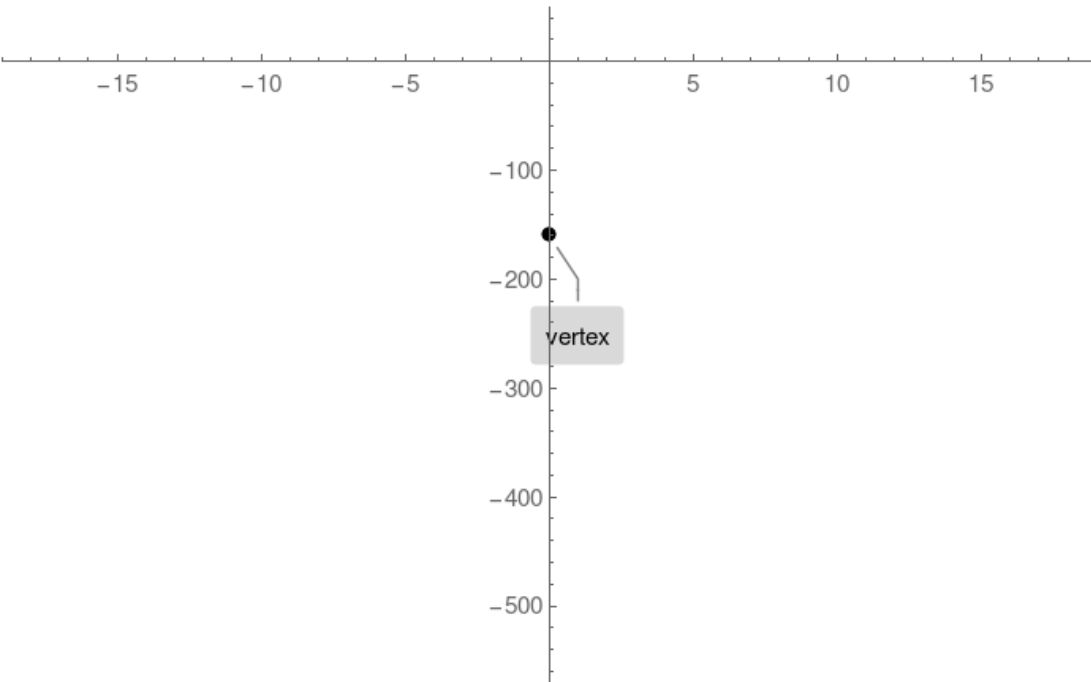
### Example 3. Vertex equal to vertical intercept

Plot  $u(j) = -j^2 - 160$

#### Step 1.

Compute vertex and plot single point:

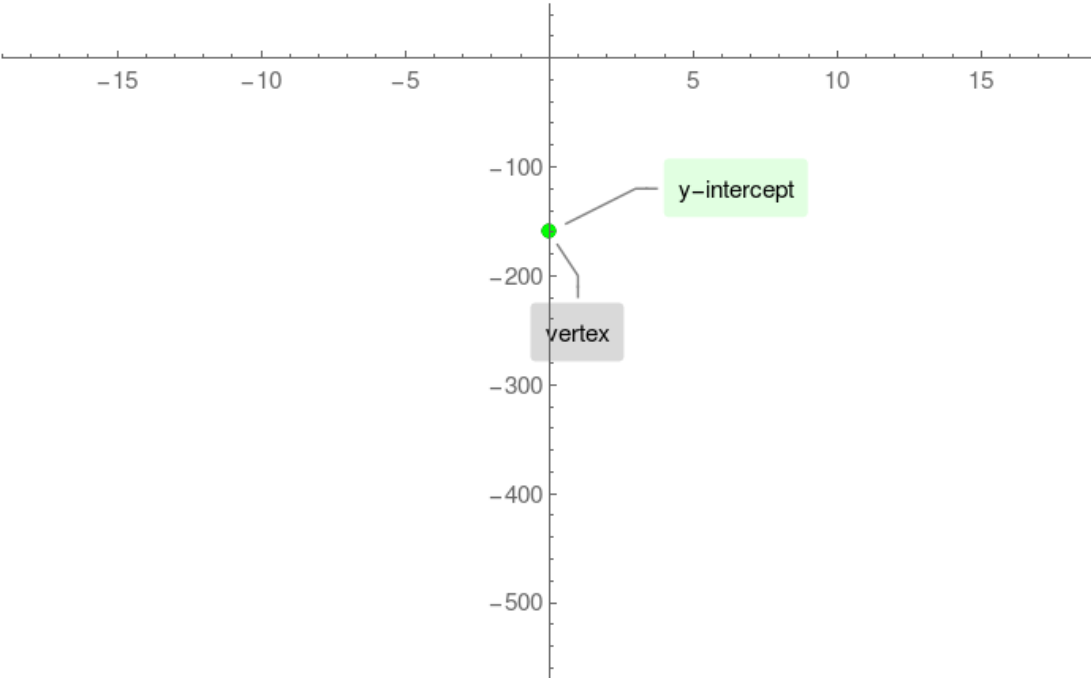
vertex =  $(0, -160)$



#### Step 2.

Compute u-intercept and plot single point:

u-intercept =  $(0, -160)$

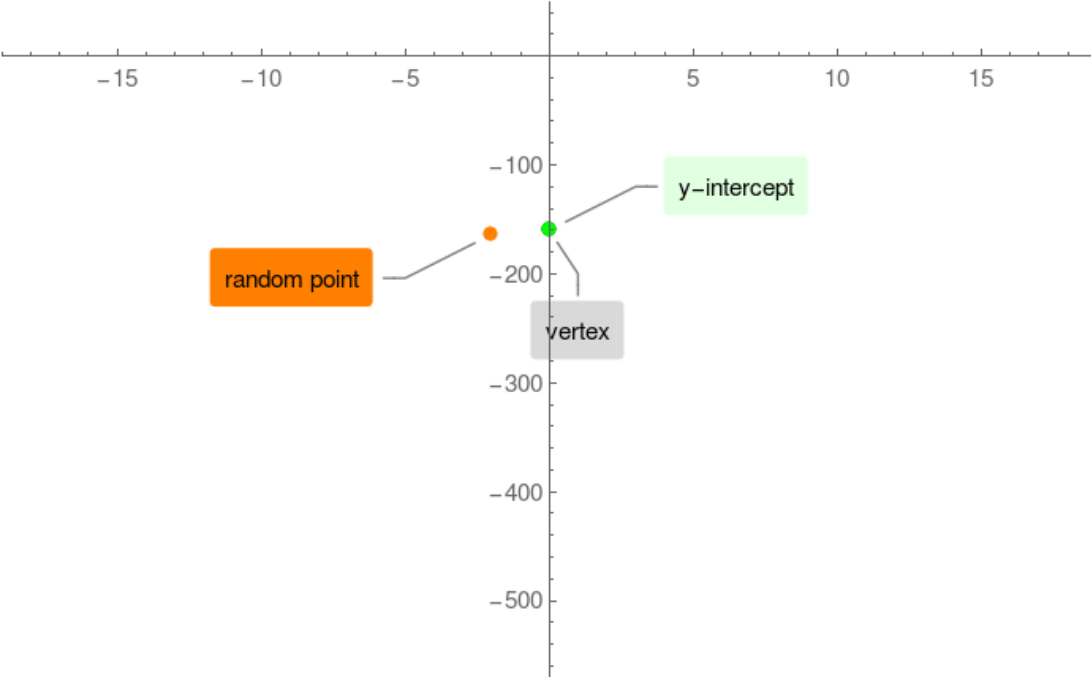


#### Step 3.

There are no j-intercepts!

Instead compute an arbitrary point on any side of vertex:

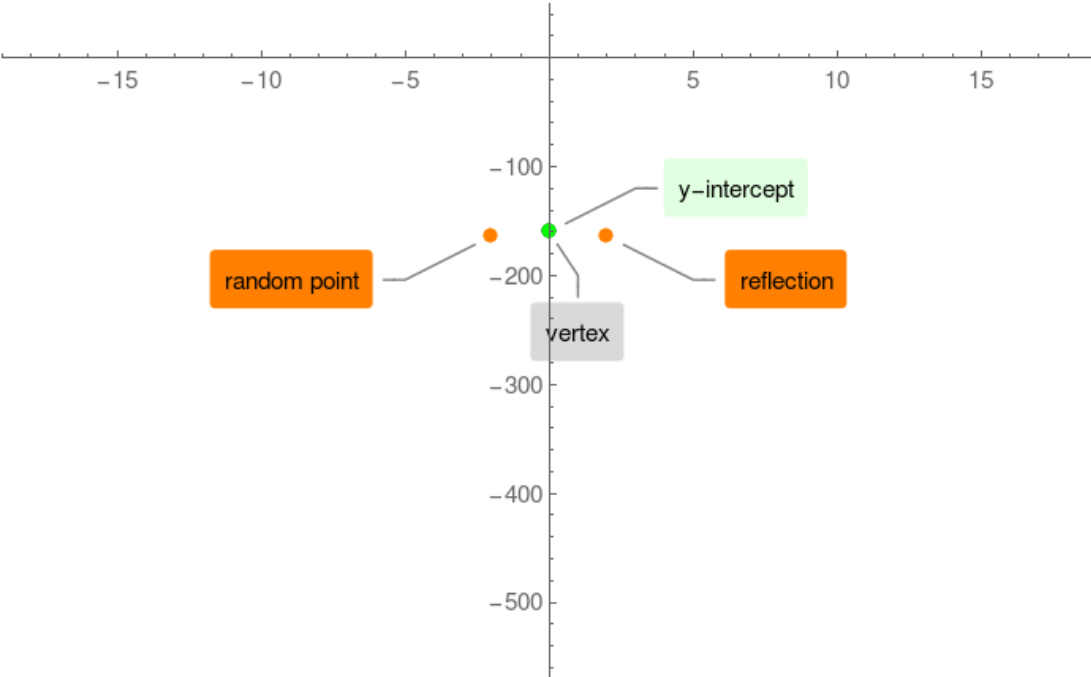
Random point =  $(-2, -164)$



#### Step 4.

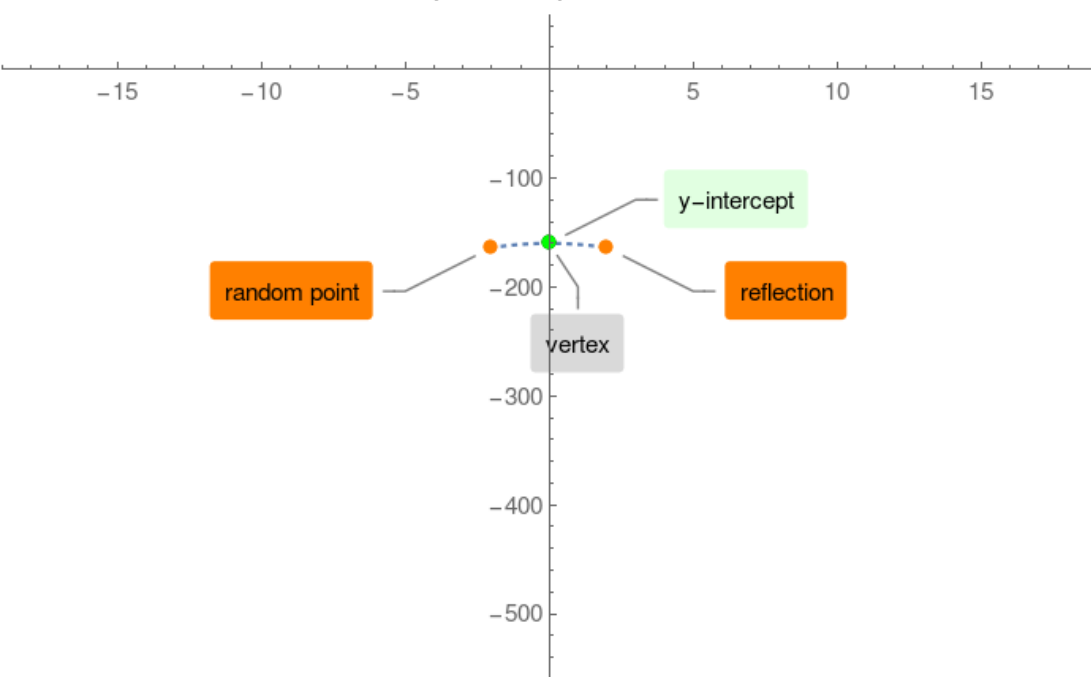
Reflect the point against the vertex's vertical axes:

Reflection =  $(2, -164)$



#### Step 5.

connect the above computed points:



#### Step 6.

Extend the parabola beyond the range of intercepts

