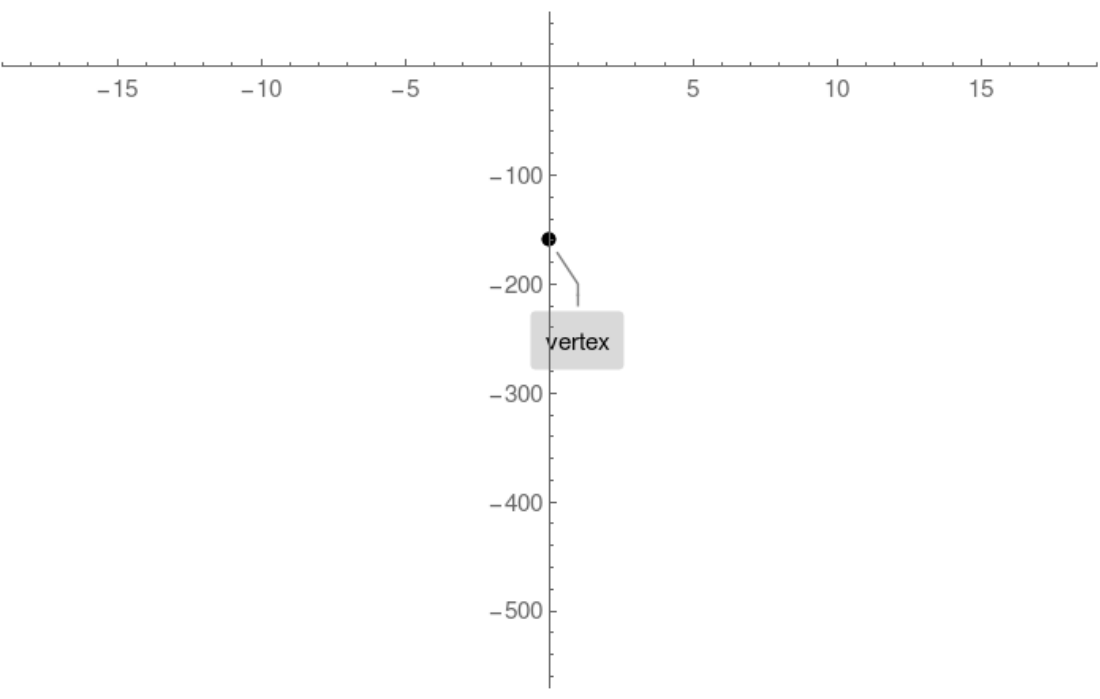
Example 3. Vertex equal to vertical intercept

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

Step 1.

Compute vertex and plot single point:

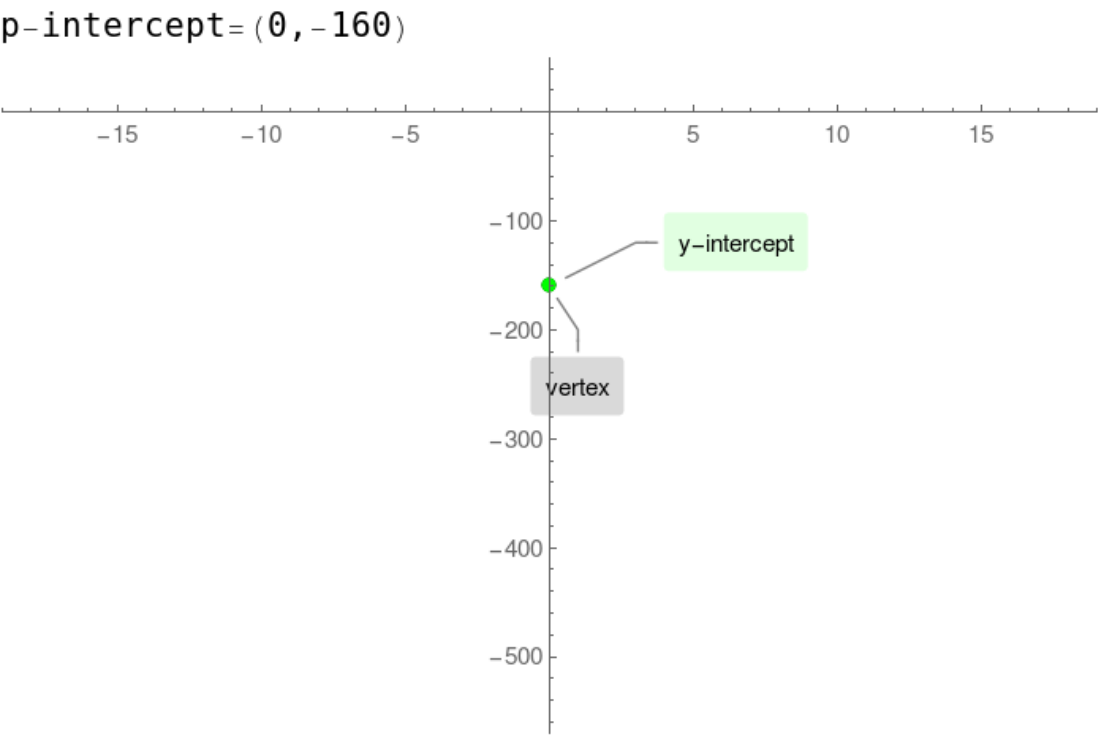
vertex$=(0,-160)$



Step 2.

Compute p-intercept and plot single point:

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

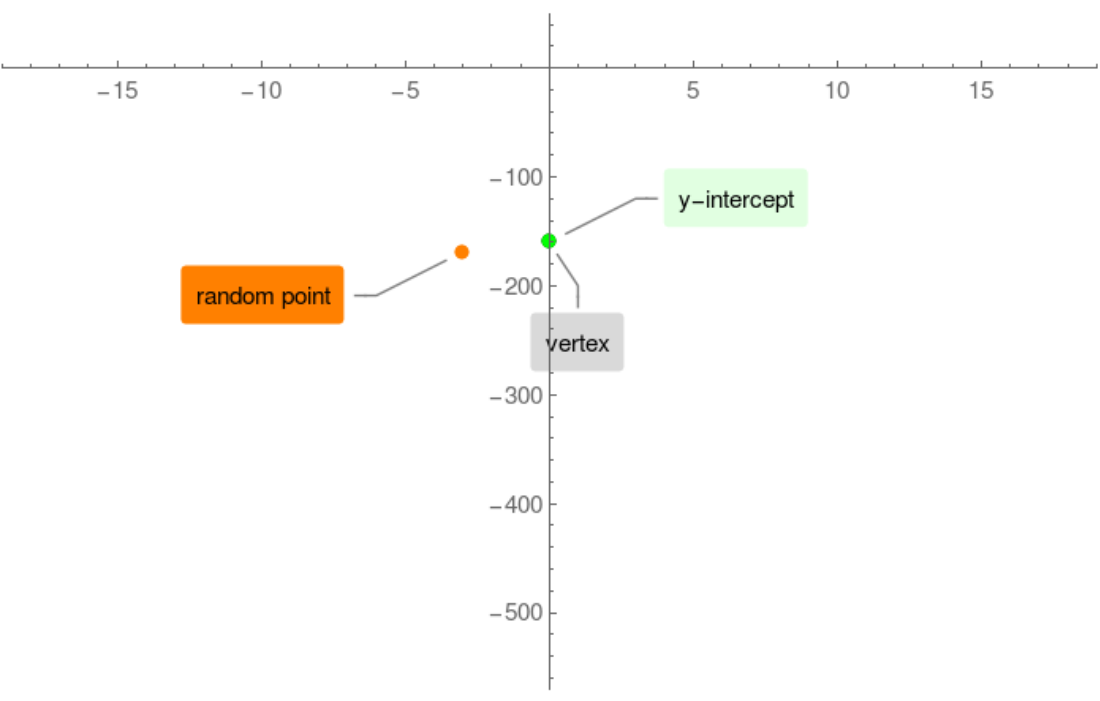


Step 3.

There are no j-intercepts!

Instead compute an arbitrary point on any side of vertex:

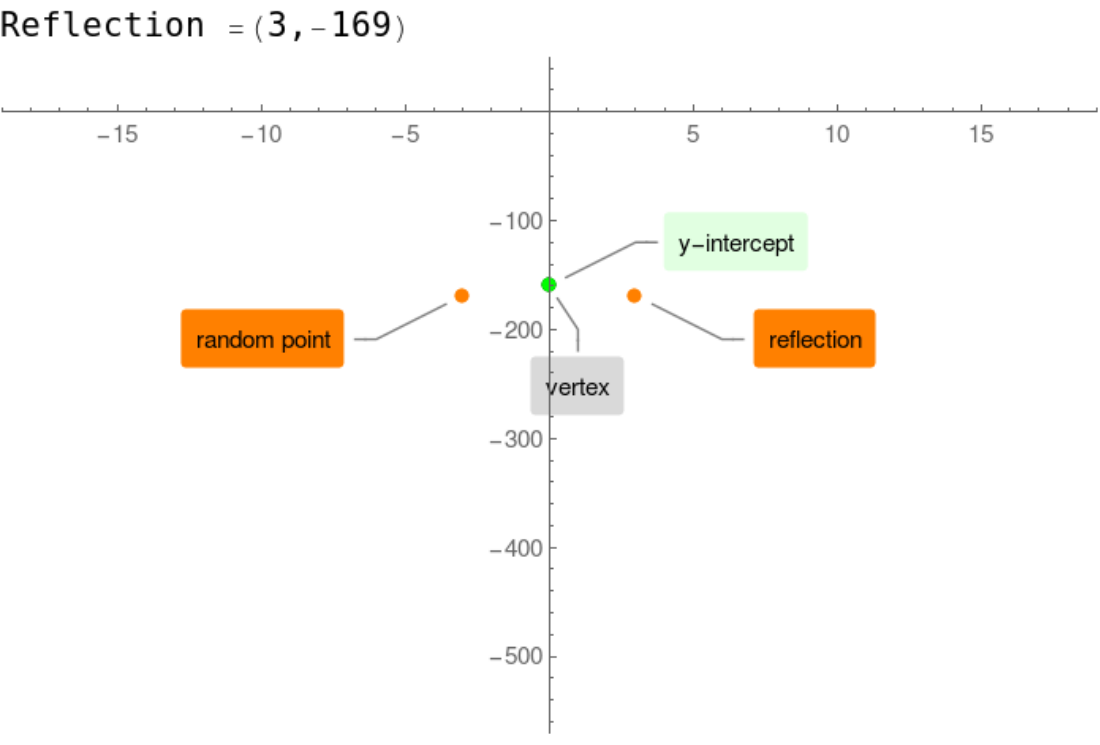
Random point$=(-3,-169)$



Step 4.

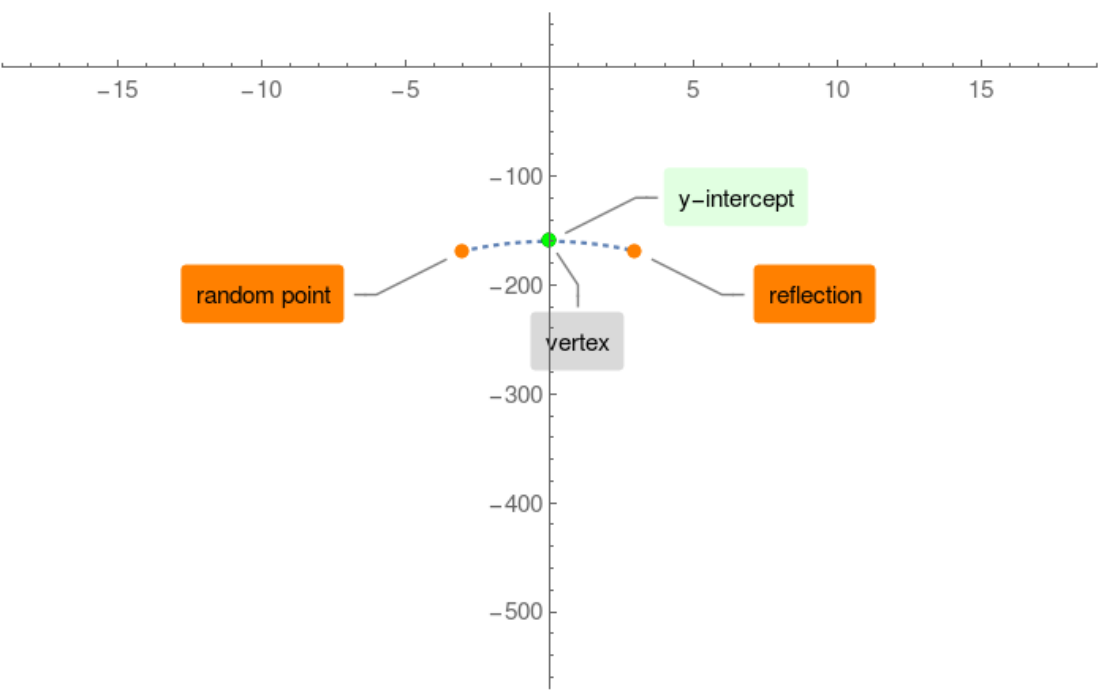
Reflect the point against the vertex's vertical axes:

Reflection $=(3,-169)$



Step 5.

connect the above computed points:



Step 6.

Extend the parabola beyond the range of intercepts