

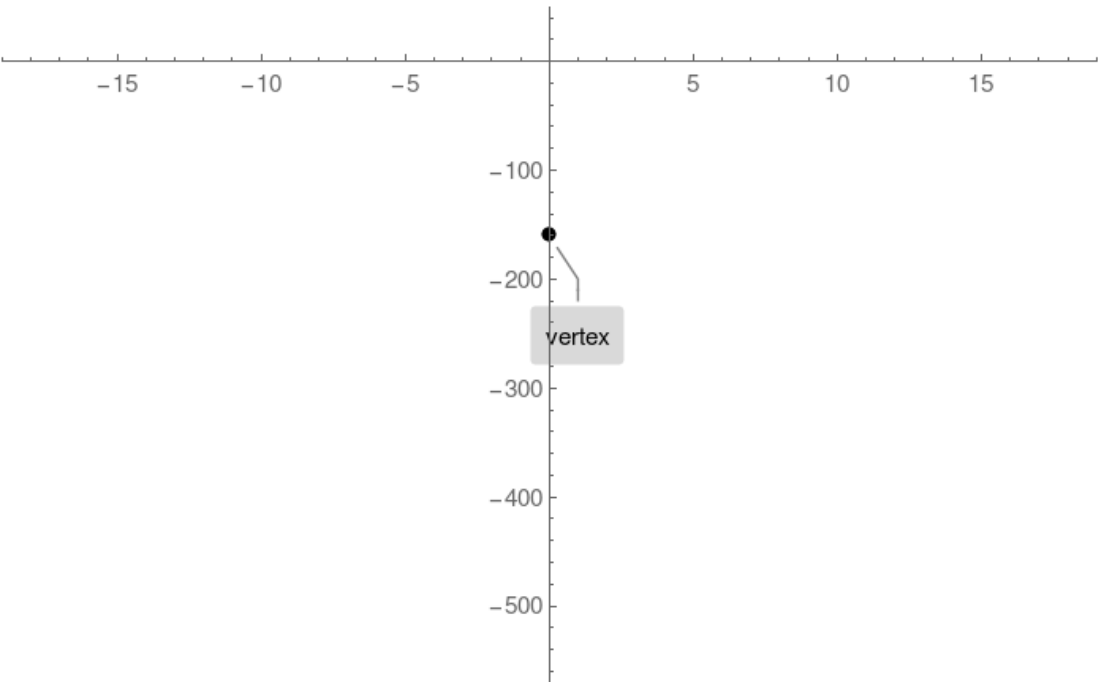
Example 3. Vertex equal to vertical intercept

Plot $r(z) = -z^2 - 160$

Step 1.

Compute vertex and plot single point:

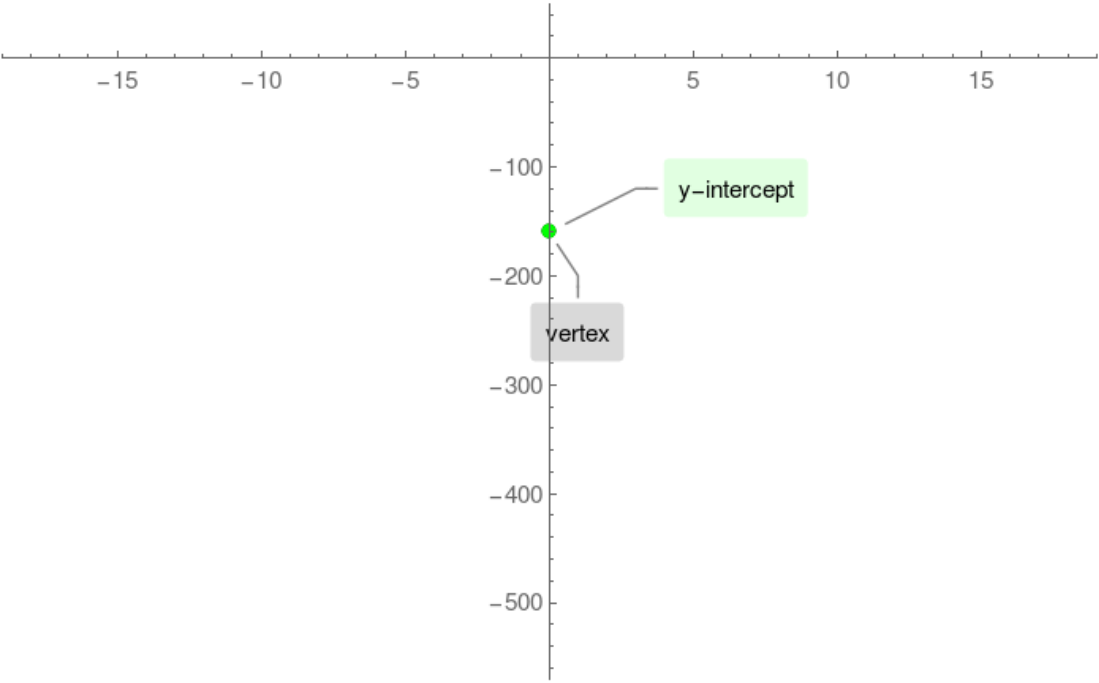
vertex = $(0, -160)$



Step 2.

Compute r-intercept and plot single point:

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

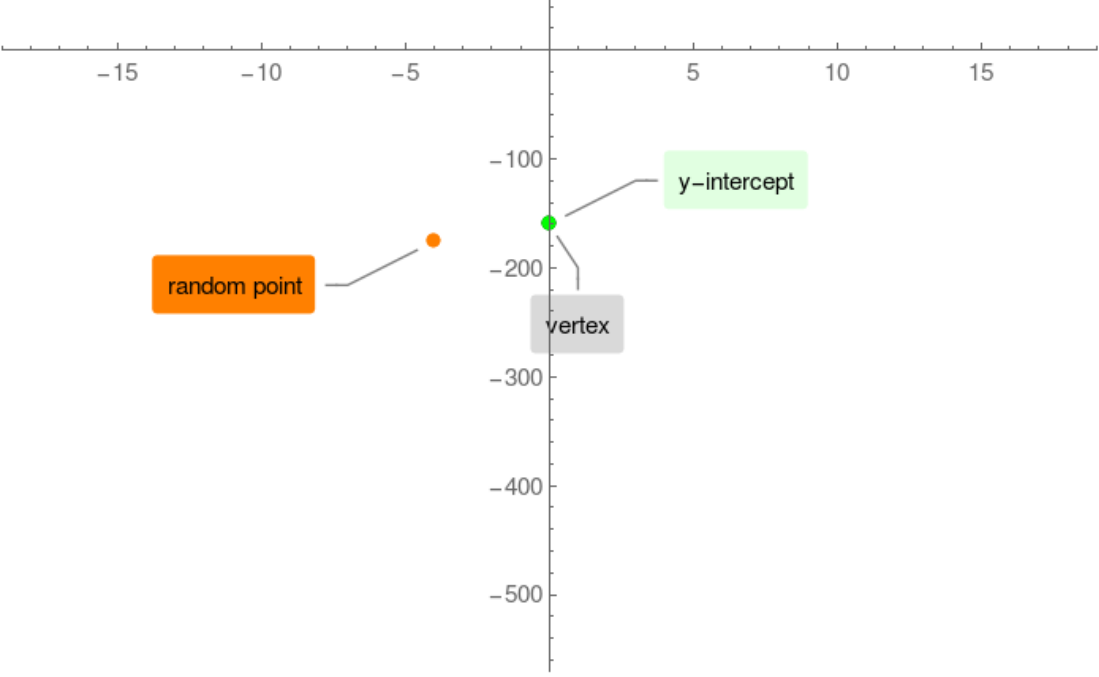


Step 3.

There are no z-intercepts!

Instead compute an arbitrary point on any side of vertex:

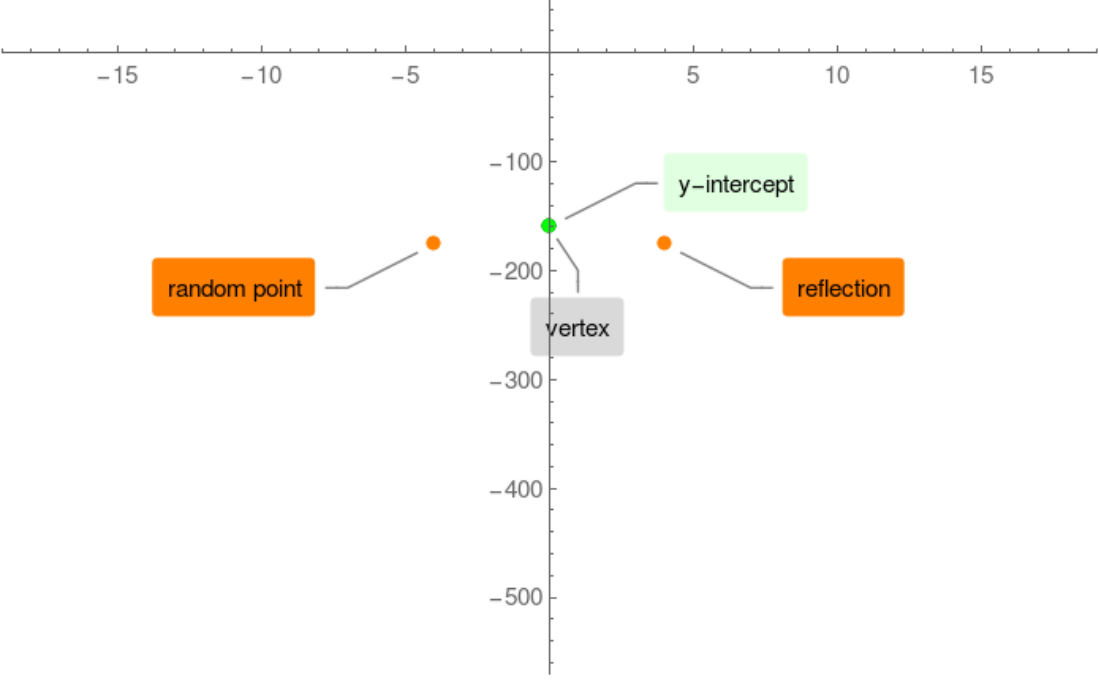
Random point = $(-4, -176)$



Step 4.

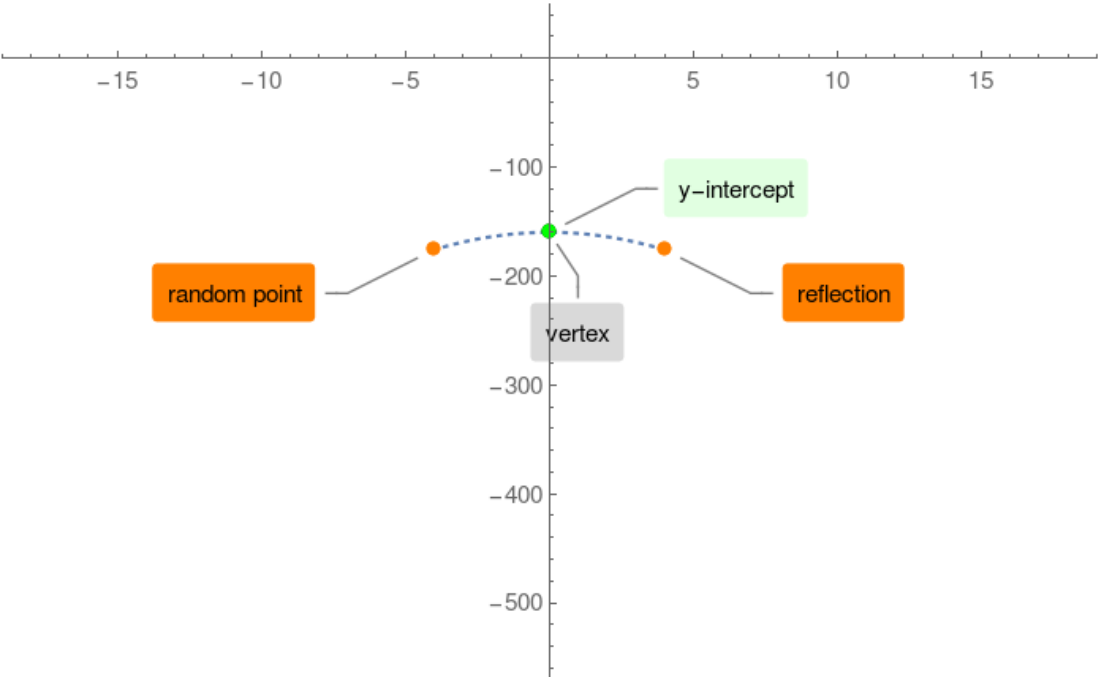
Reflect the point against the vertex's vertical axes:

Reflection = $(4, -176)$



Step 5.

connect the above computed points:



Step 6.

Extend the parabola beyond the range of intercepts

