

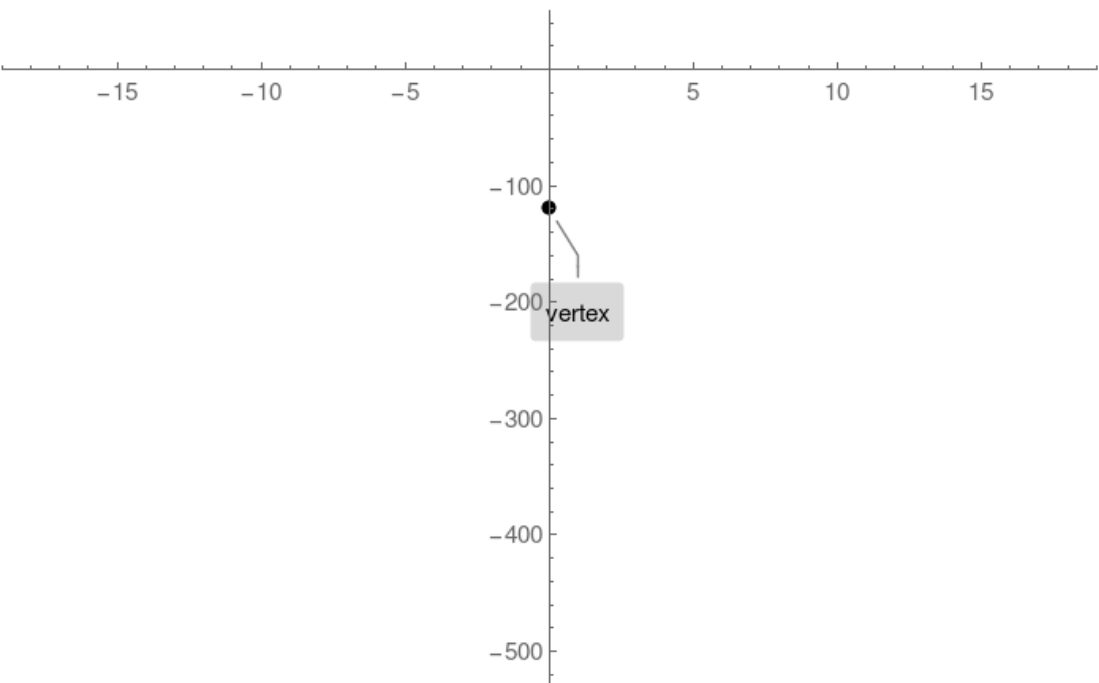
### Example 3. Vertex equal to vertical intercept

Plot  $g(r) = -r^2 - 120$

#### Step 1.

Compute vertex and plot single point:

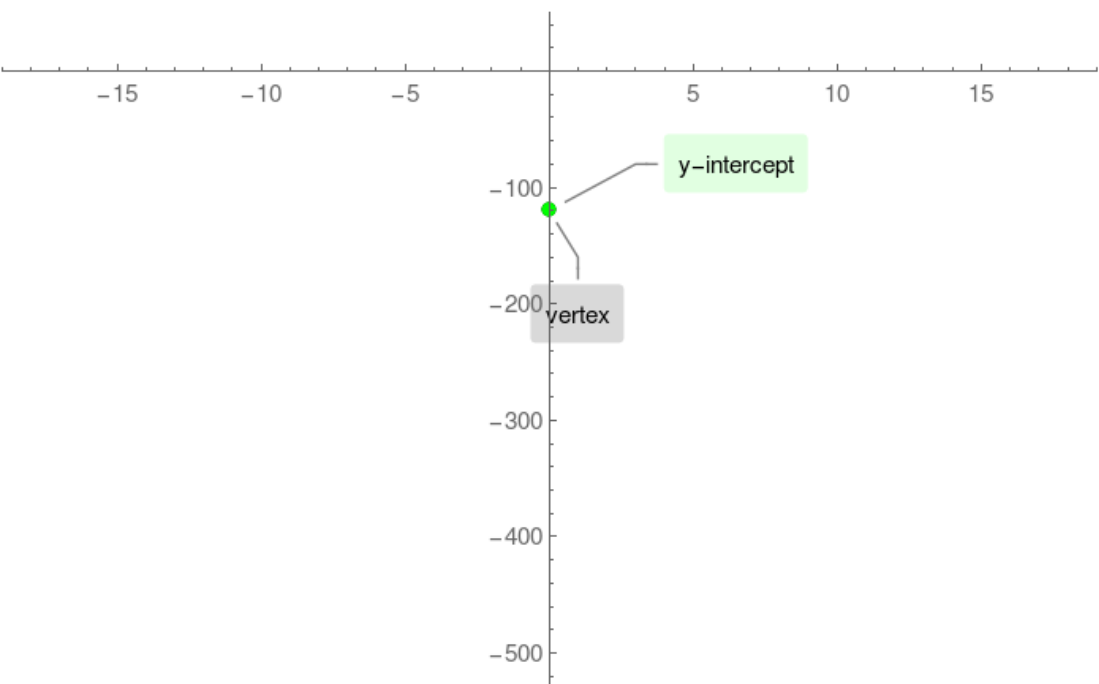
vertex =  $(0, -120)$



#### Step 2.

Compute g-intercept and plot single point:

g-intercept =  $(0, -120)$

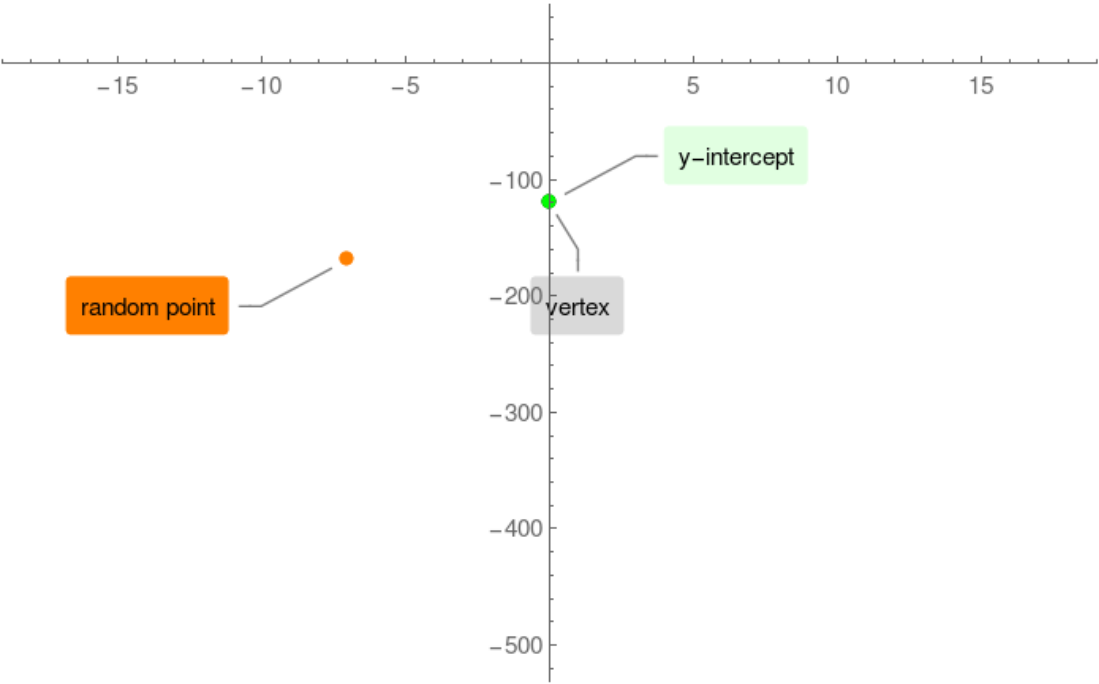


#### Step 3.

There are no r-intercepts!

Instead compute an arbitrary point on any side of vertex:

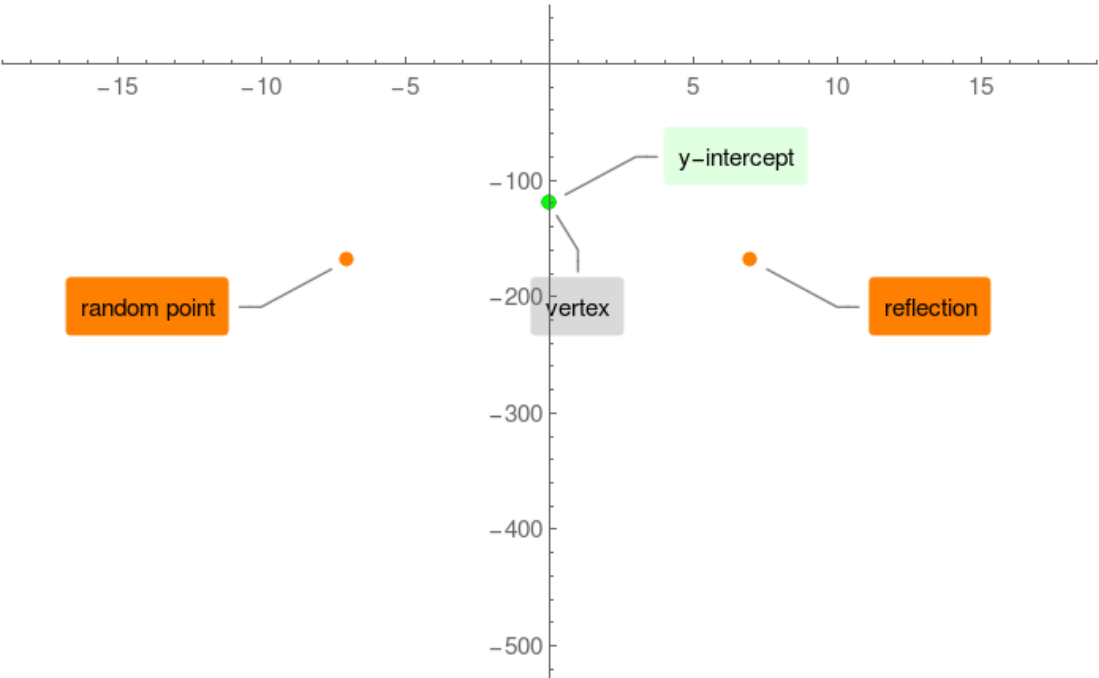
Random point =  $(-7, -169)$



#### Step 4.

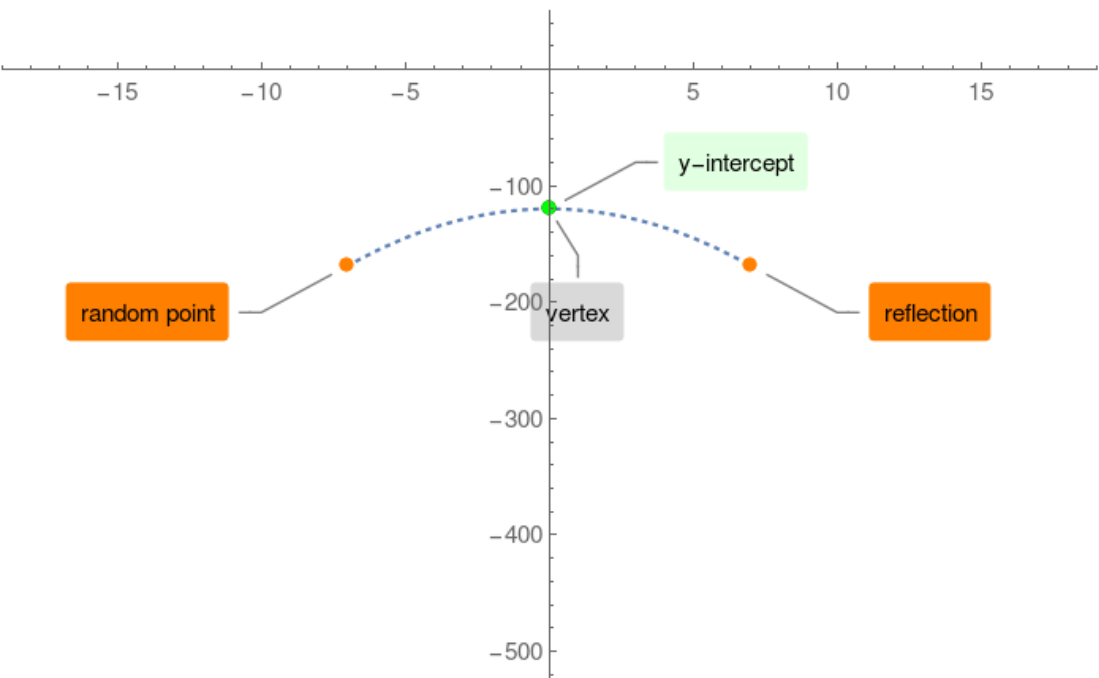
Reflect the point against the vertex's vertical axes:

Reflection =  $(7, -169)$



#### Step 5.

connect the above computed points:



#### Step 6.

Extend the parabola beyond the range of intercepts

