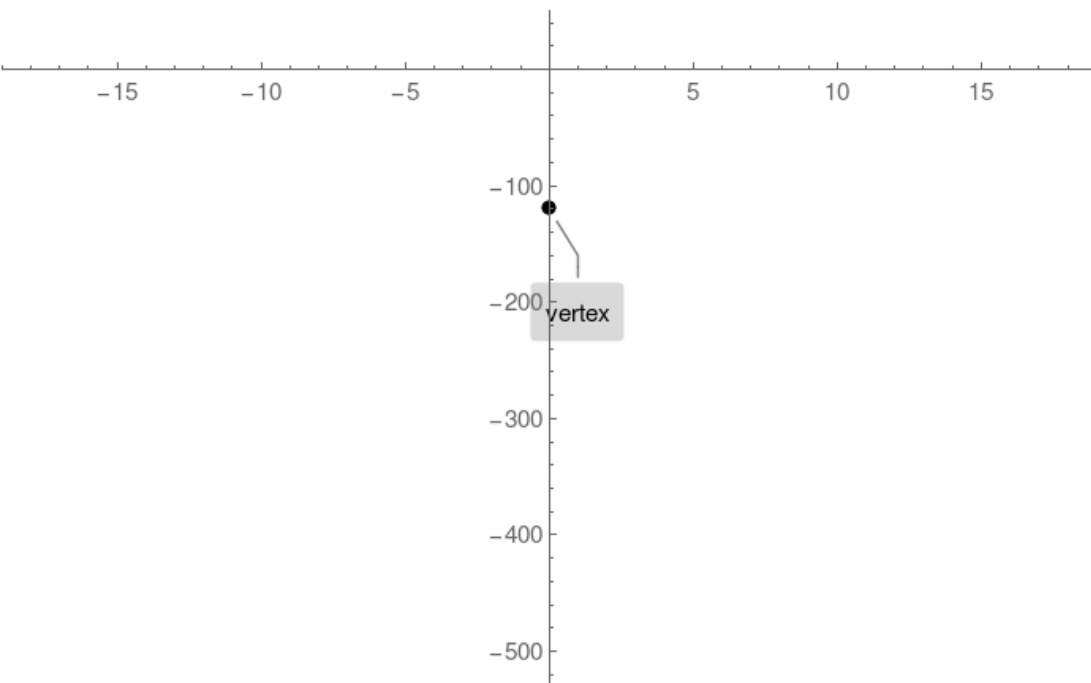# Example 3. Vertex equal to vertical intercept

Plot $u(t) = -t^2 - 120$

Step 1.

Compute vertex and plot single point:
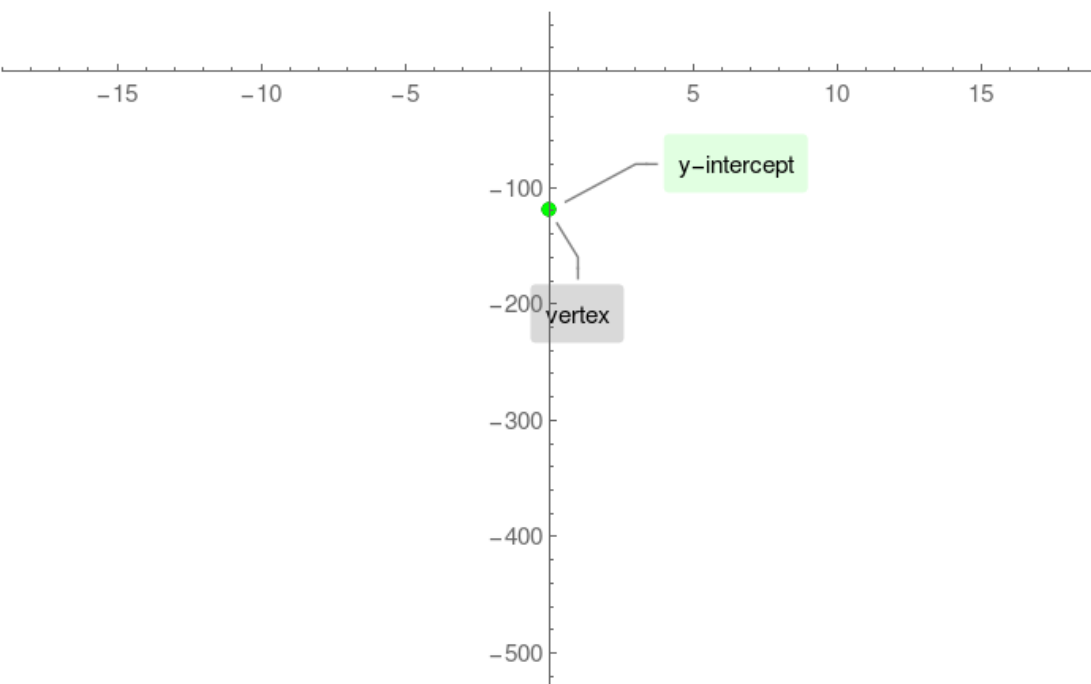
vertex $= (0, -120)$

Step 2.

Compute u-intercept and plot single point:
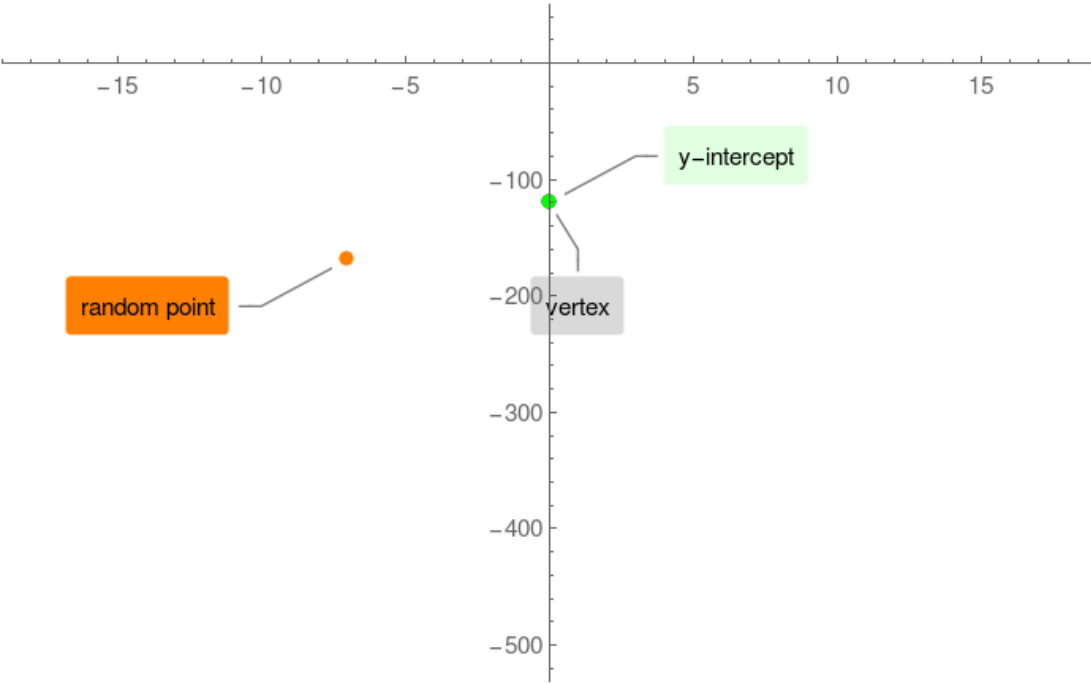
u-intercept $= (0, -120)$

Step 3.

There are no t-intercepts!

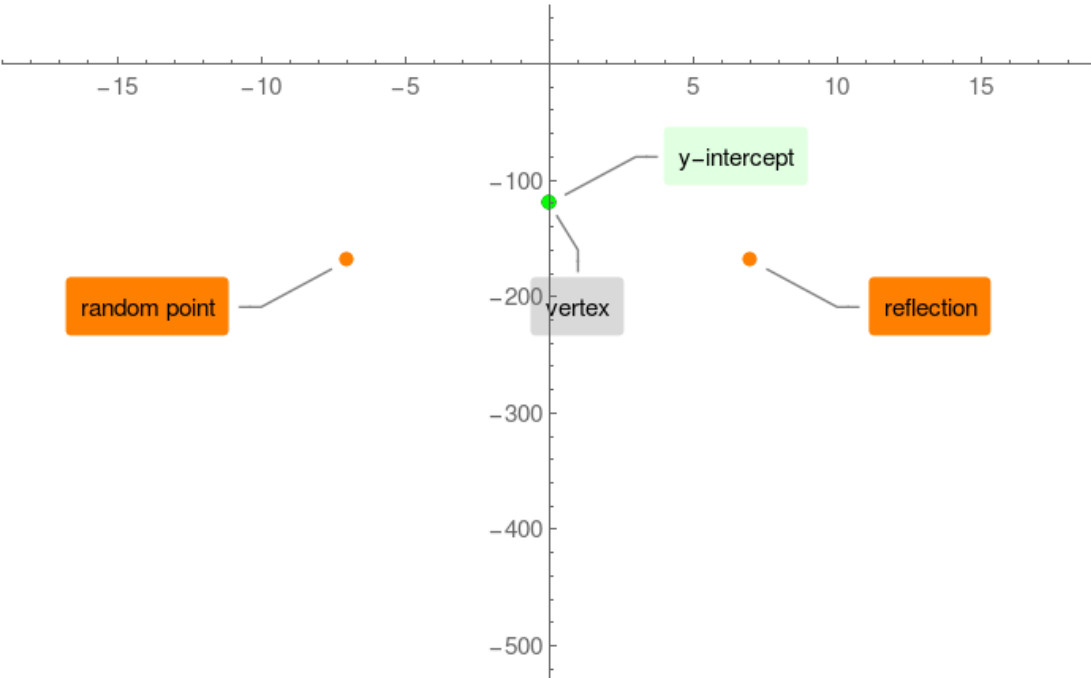Instead compute an arbitrary point on any side of vertex:
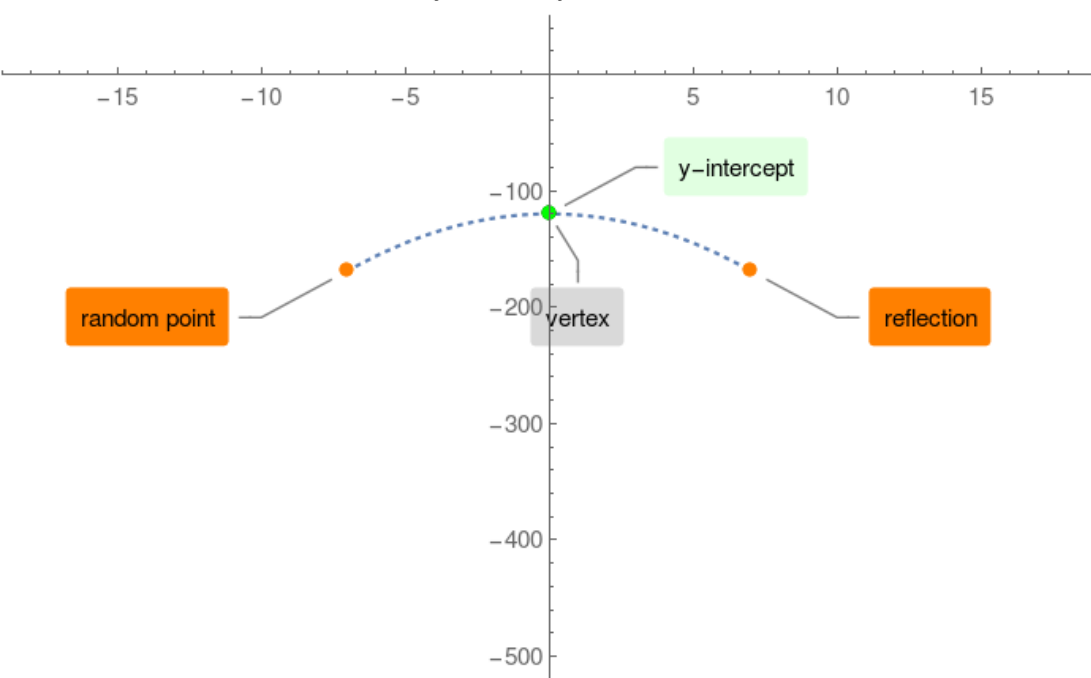
Random point $= (-7, -169)$

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