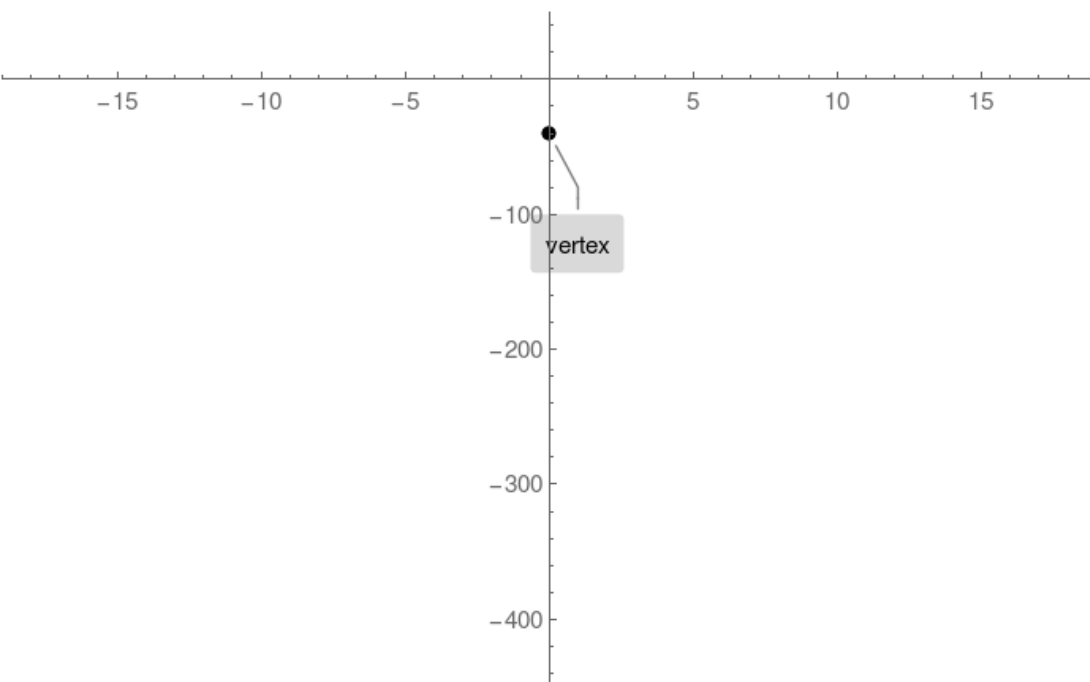# Example 3. Vertex equal to vertical intercept

Plot $z(n) = -n^2 - 40$

Step 1.
Compute vertex and plot single point:
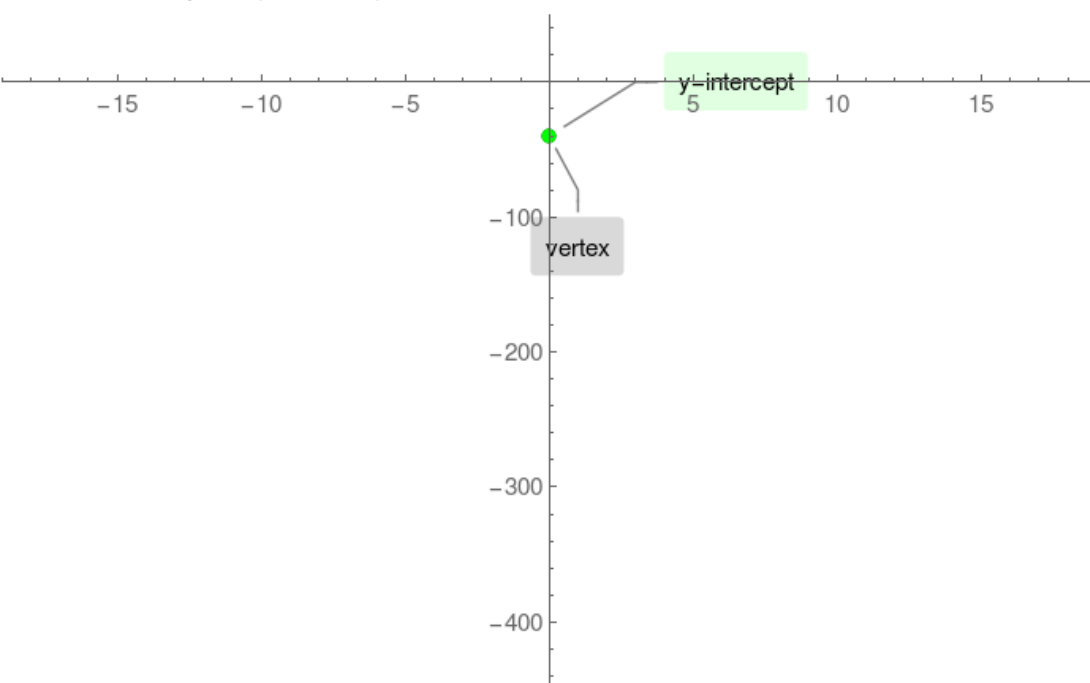vertex=$(0, -40)$

Step 2.
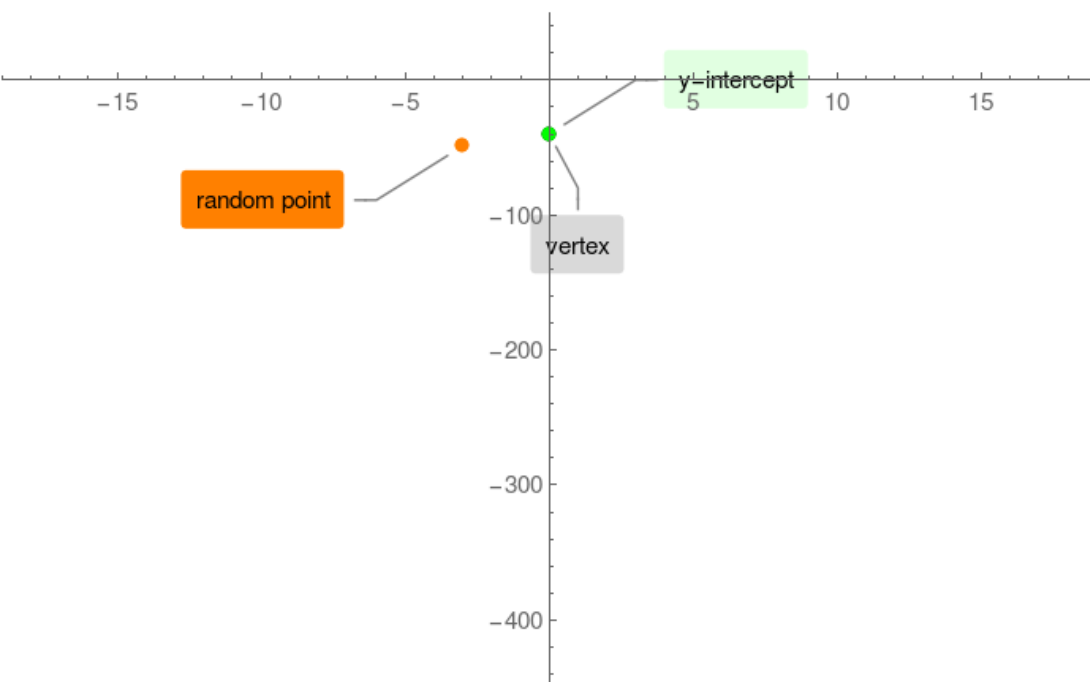Compute z-intercept and plot single point:
z-intercept=$(0, -40)$

Step 3.
There are no n-intercepts!
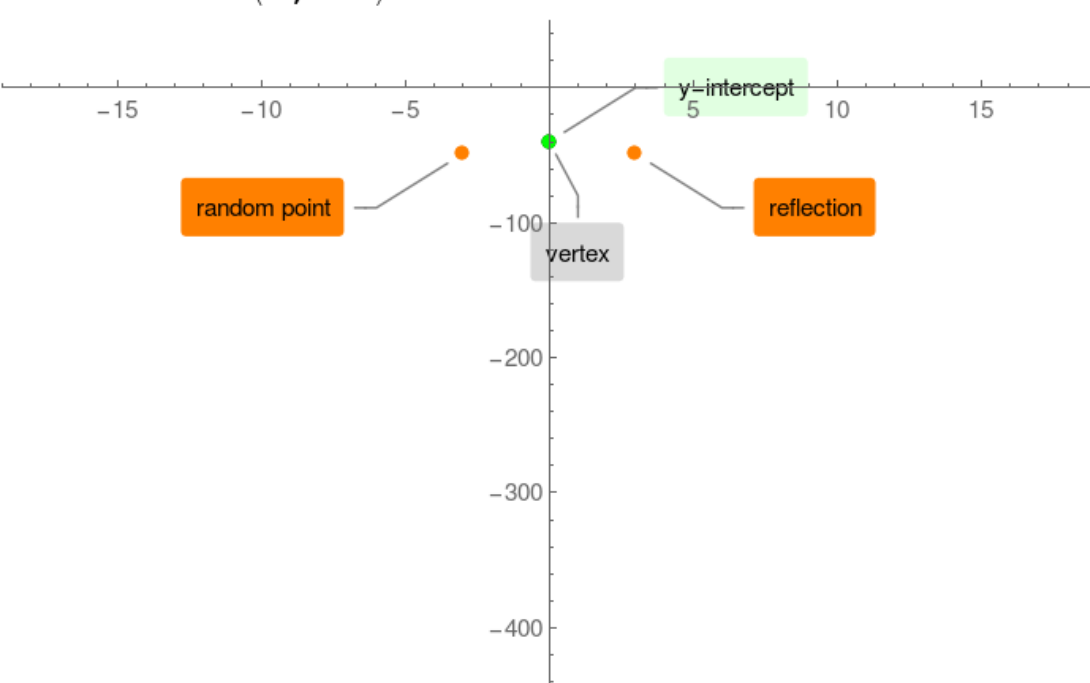Instead compute an arbitrary point on any side of vertex:
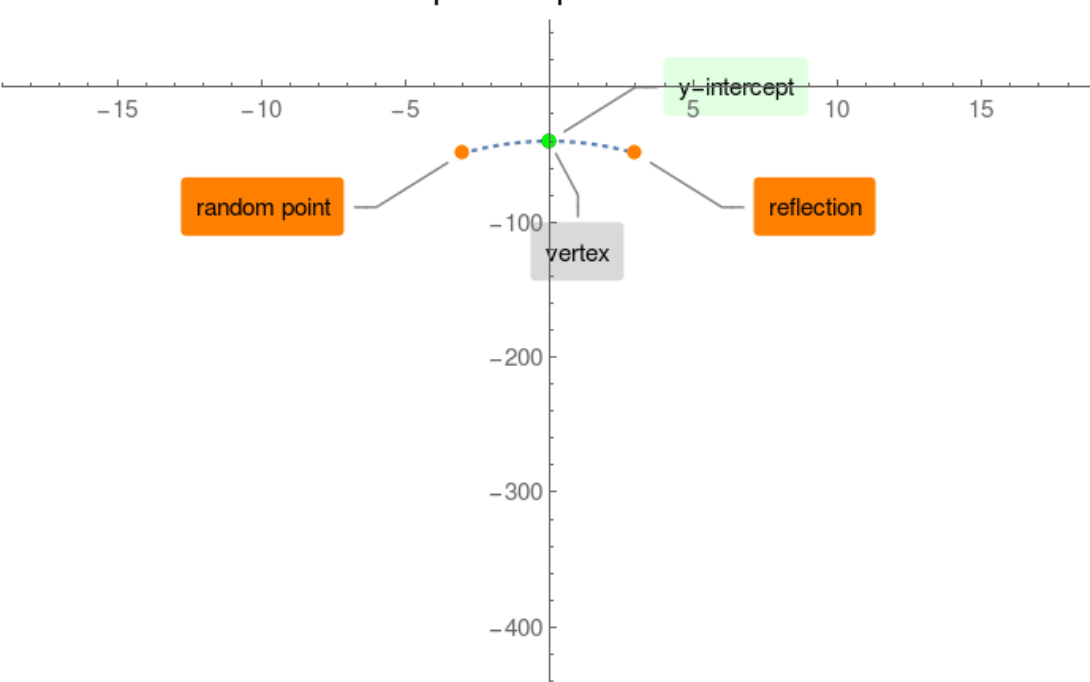Random point=$(-3, -49)$

Step 4.
Reflect the point against the vertex's vertical axes:
Reflection =$(3, -49)$

Step 5.
connect the above computed points:

Step 6.
Extend the parabola beyond the range of intercepts