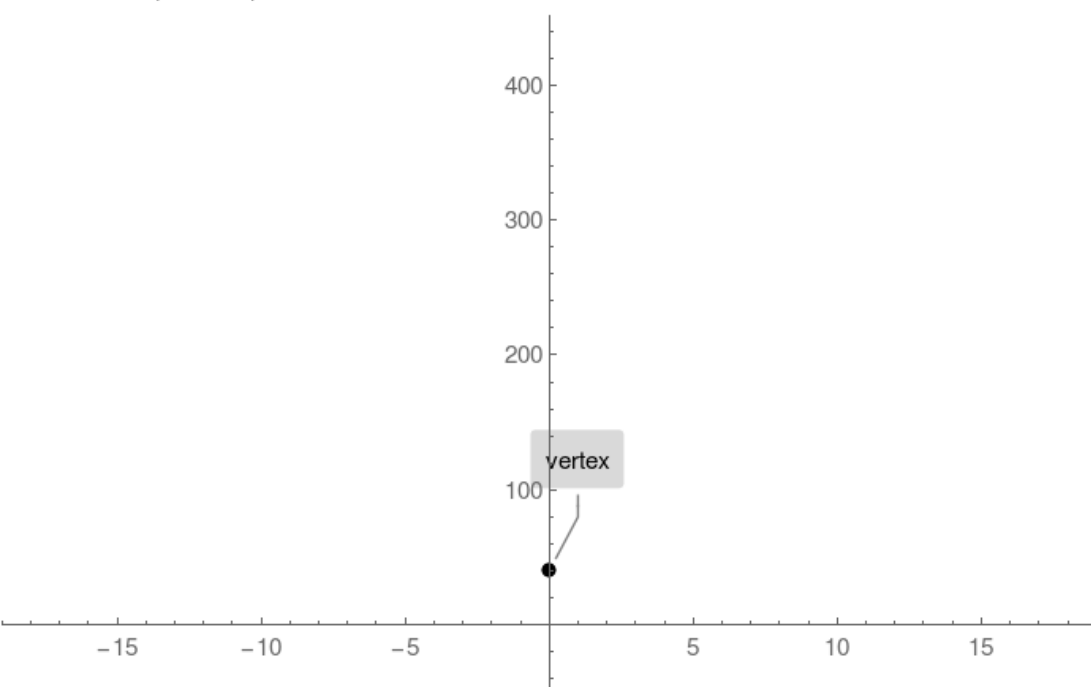# Example 3. Vertex equal to vertical intercept

Plot $n(w) = w^2 + 40$

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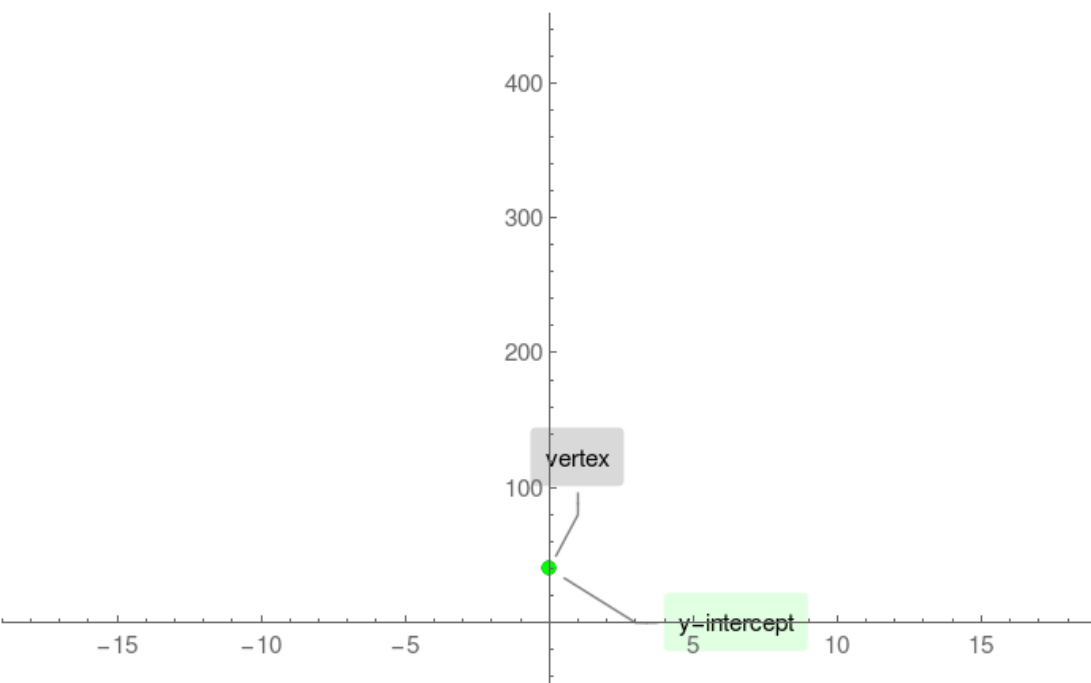vertex = $(0,40)$

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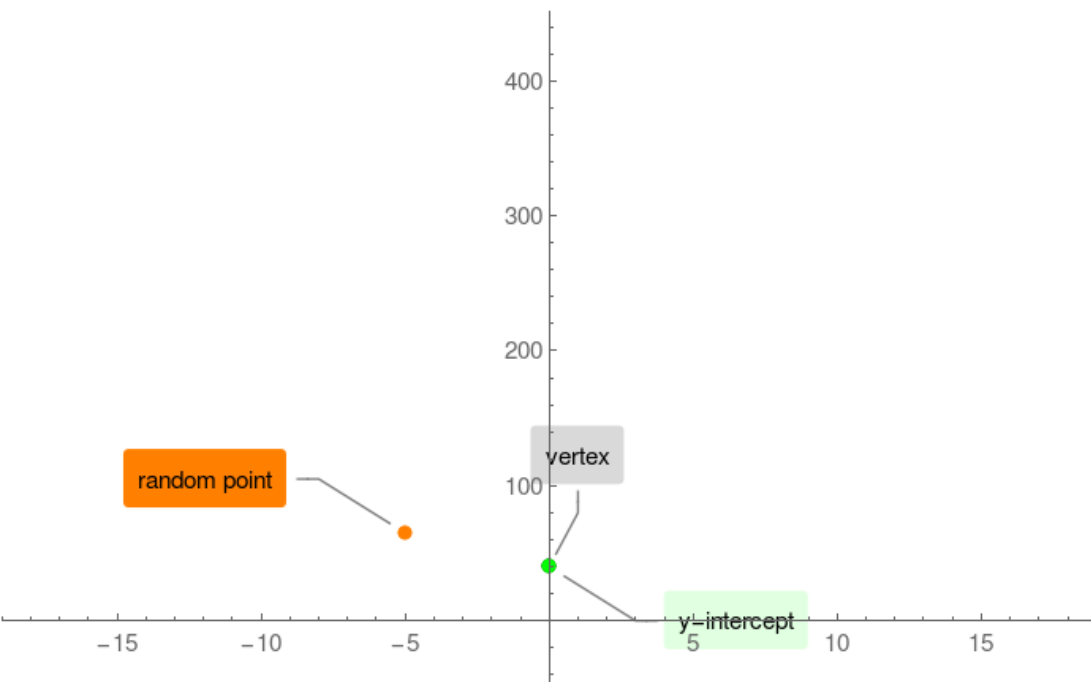n-intercept = $(0,40)$

Step 3.
There are no w-intercepts!
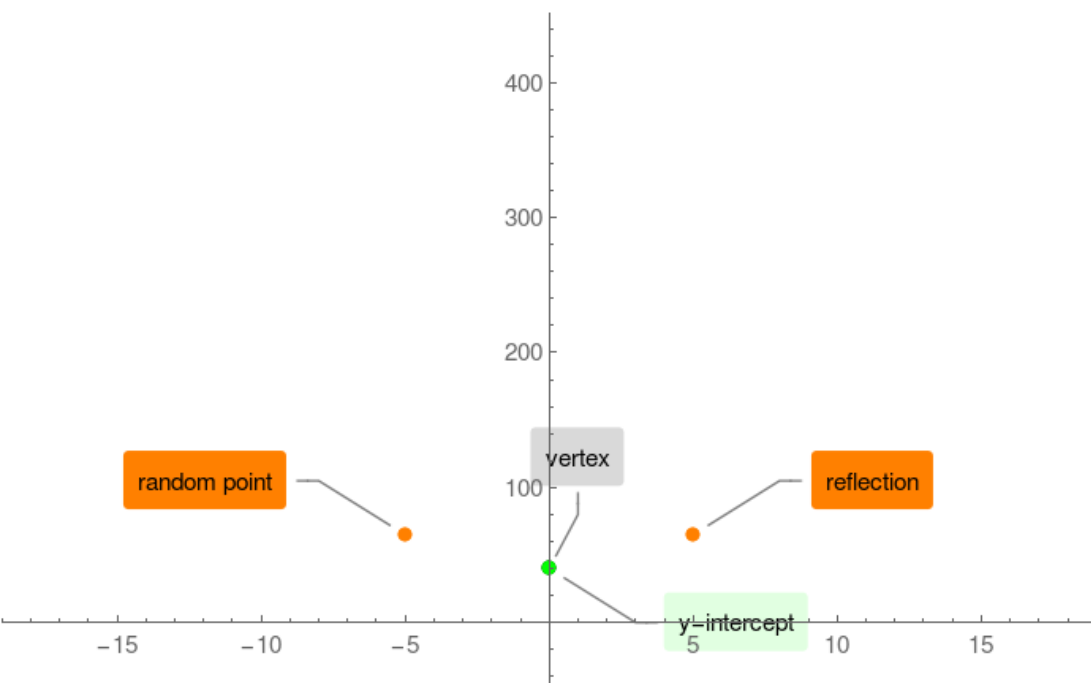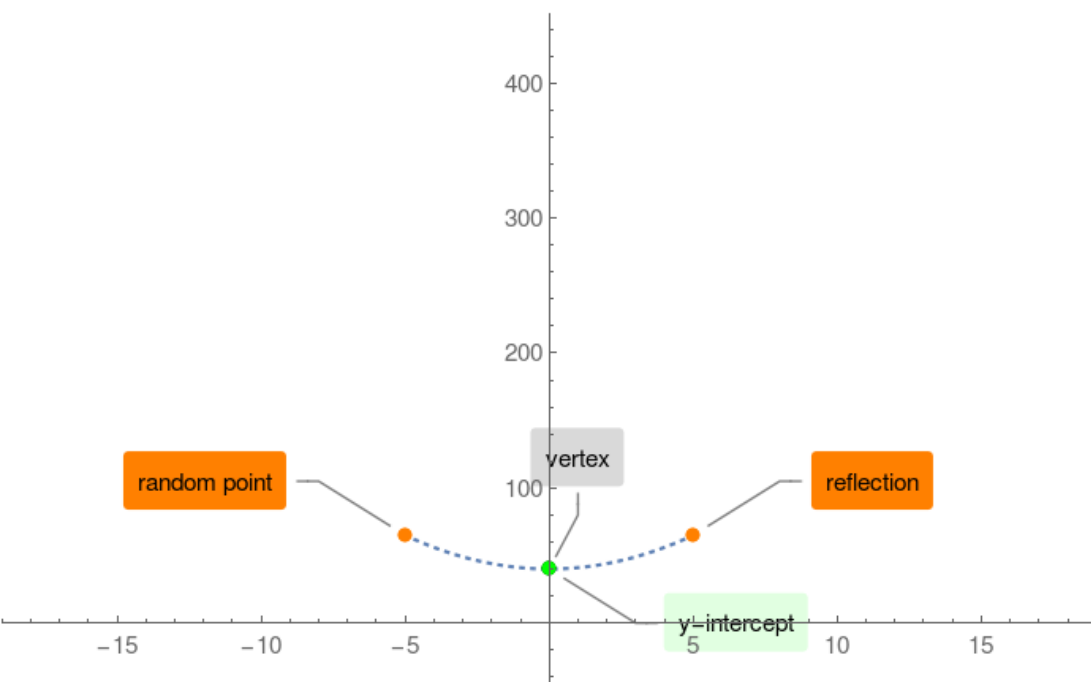Instead compute an arbitrary point on any side of vertex:
Random point = $(-5,65)$

Step 4.
Reflect the point against the vertex's vertical axes:
Reflection = $(5,65)$

Step 5.
connect the above computed points:

Step 6.
Extend the parabola beyond the range of intercepts