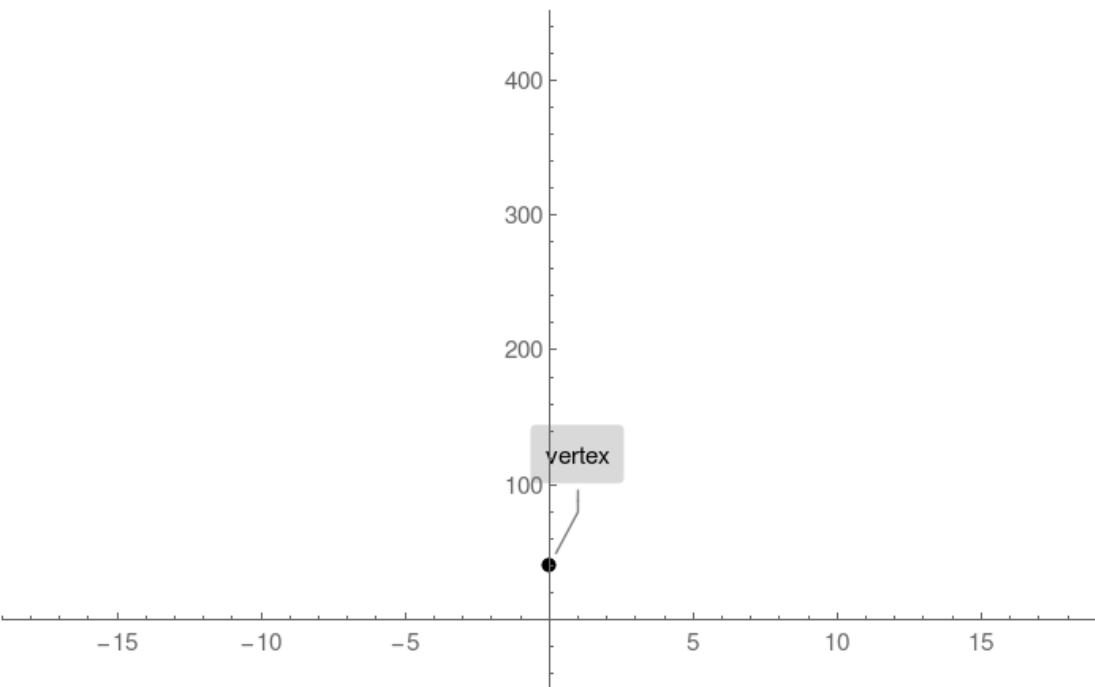# Example 3. Vertex equal to vertical intercept

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

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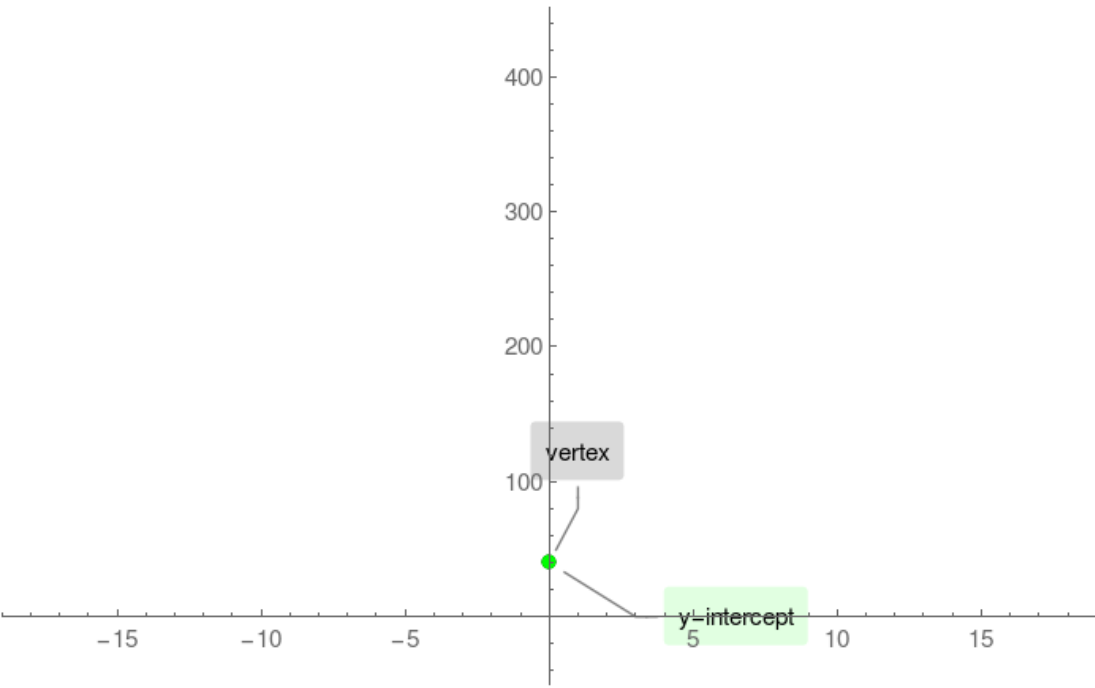vertex=(0,40)

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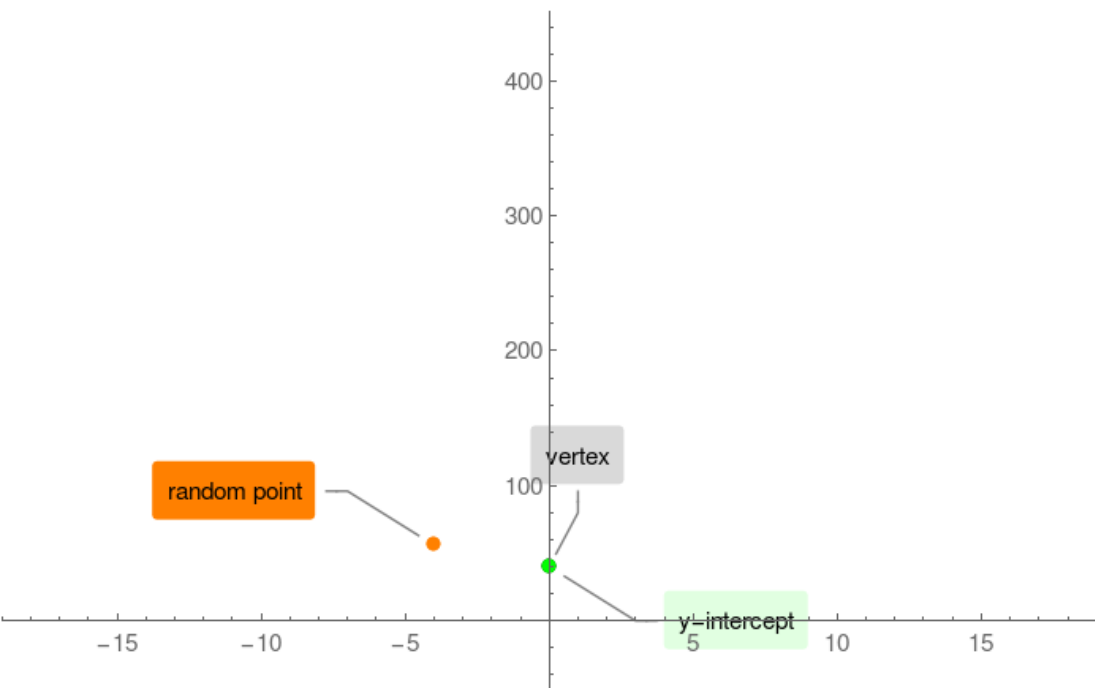w-intercept=(0,40)

Step 3.
There are no r-intercepts!
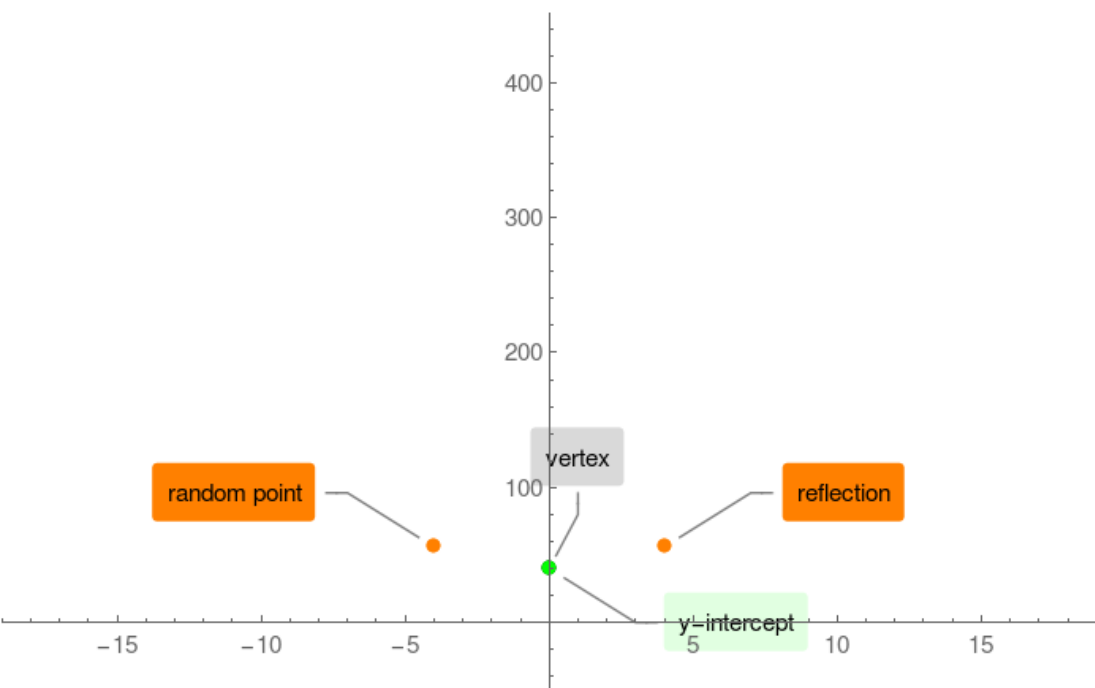Instead compute an arbitrary point on any side of vertex:
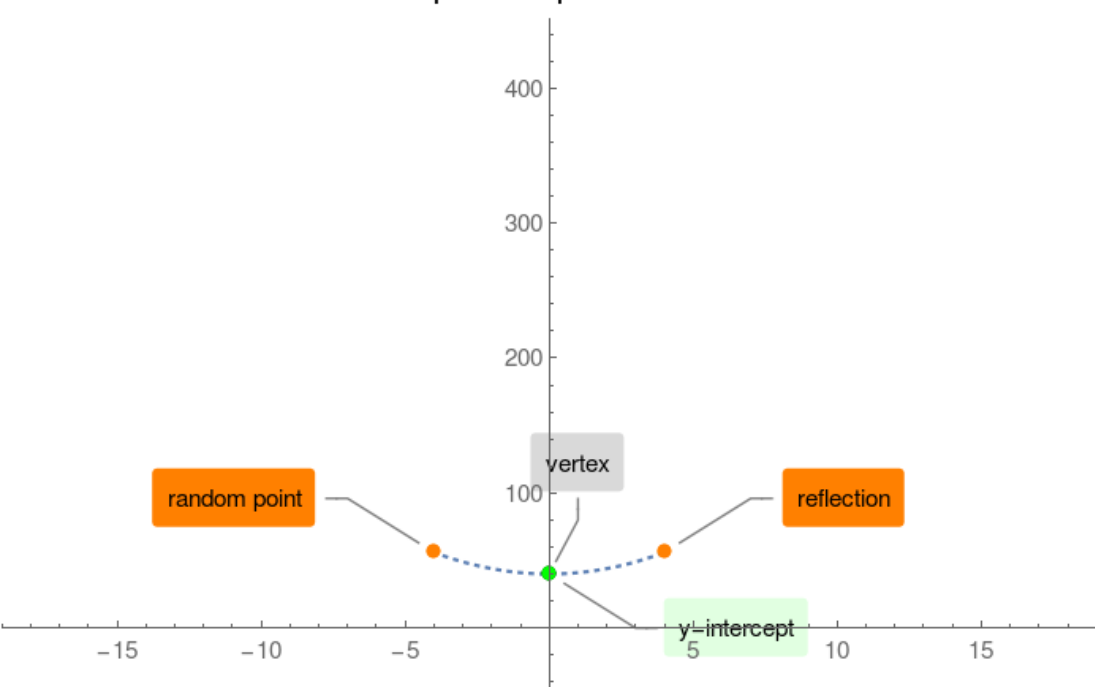Random point=(-4,56)

Step 4.
Reflect the point against the vertex's vertical axes:
Reflection =(4,56)

Step 5.
connect the above computed points:

Step 6.
Extend the parabola beyond the range of intercepts