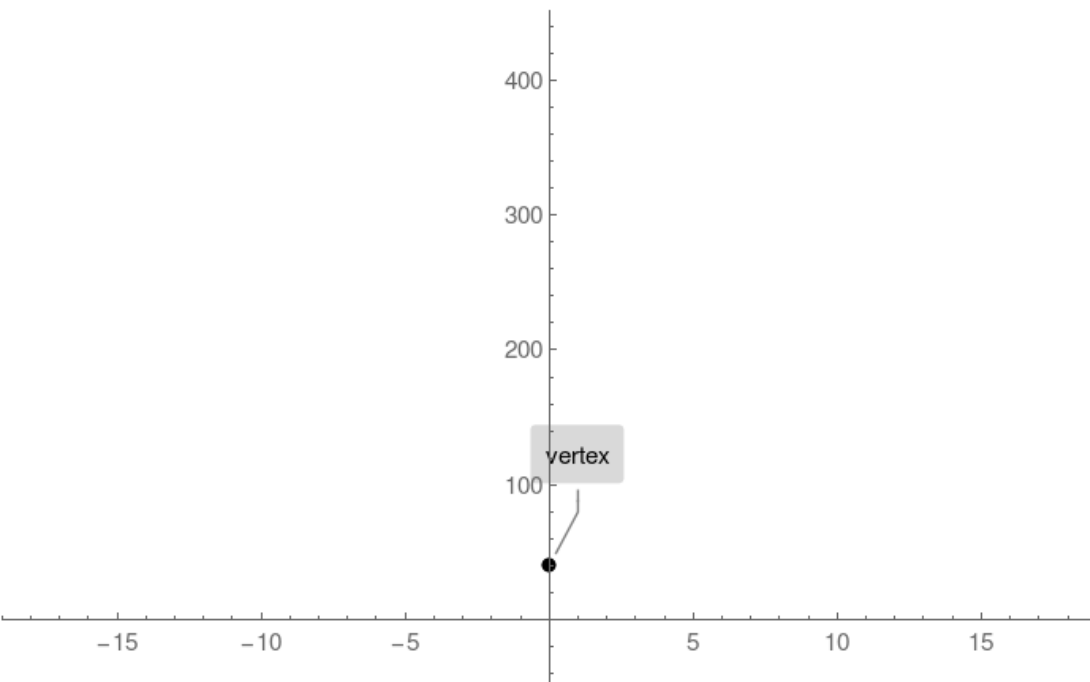# Example 3. Vertex equal to vertical intercept

Plot $d(x) = x^2 + 40$

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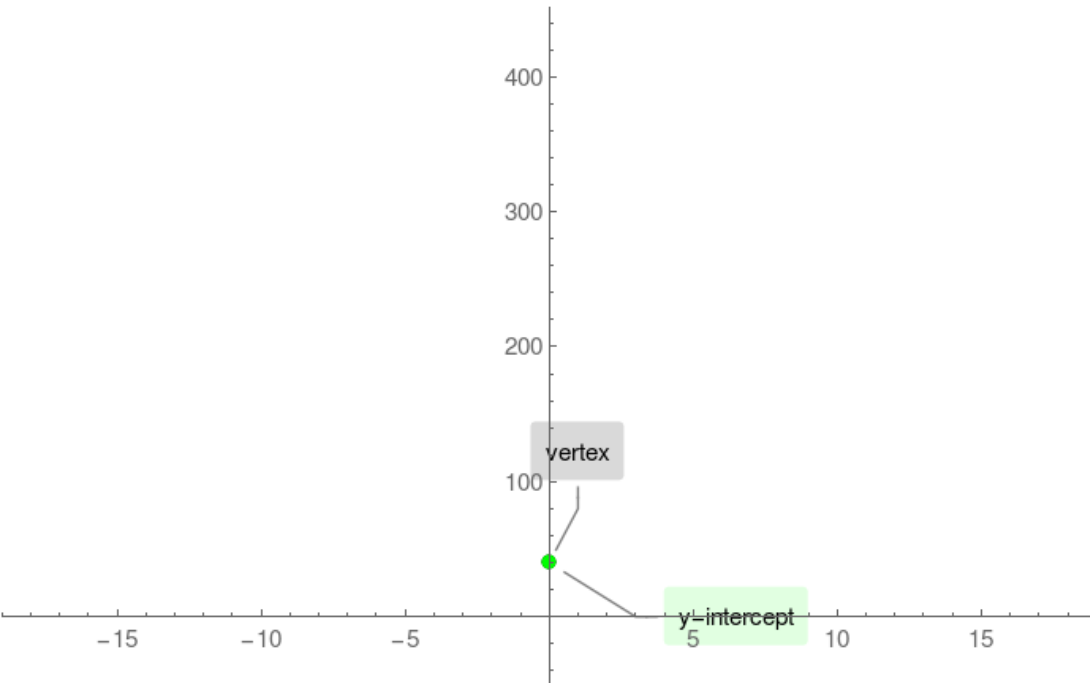vertex = (0, 40)

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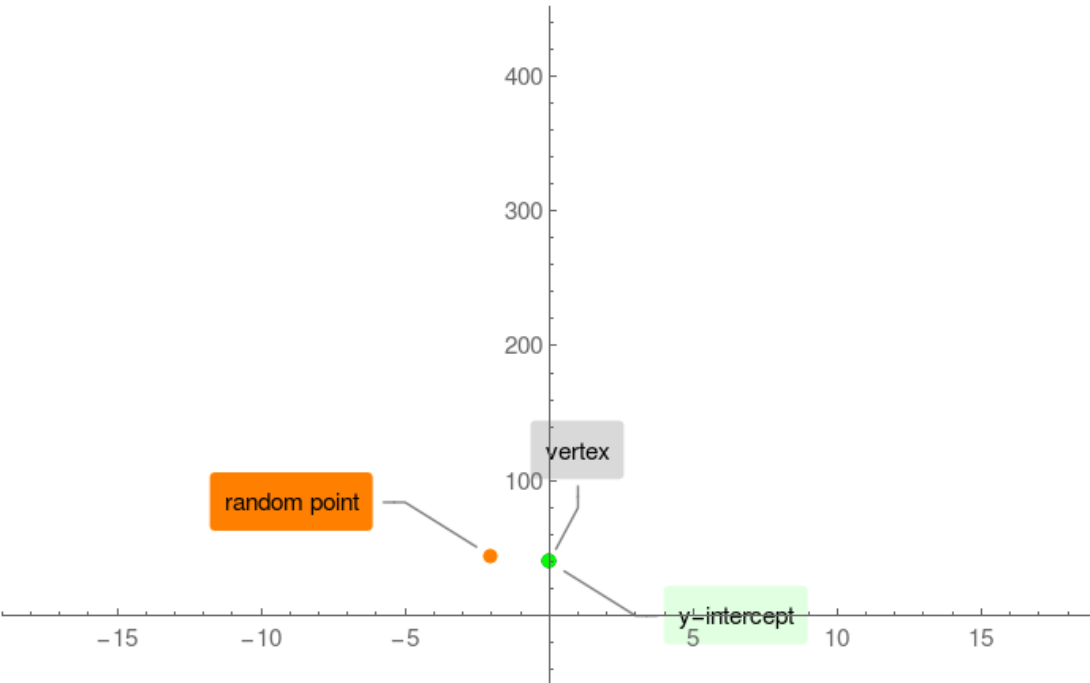d-intercept = (0, 40)

Step 3.
There are no x-intercepts!
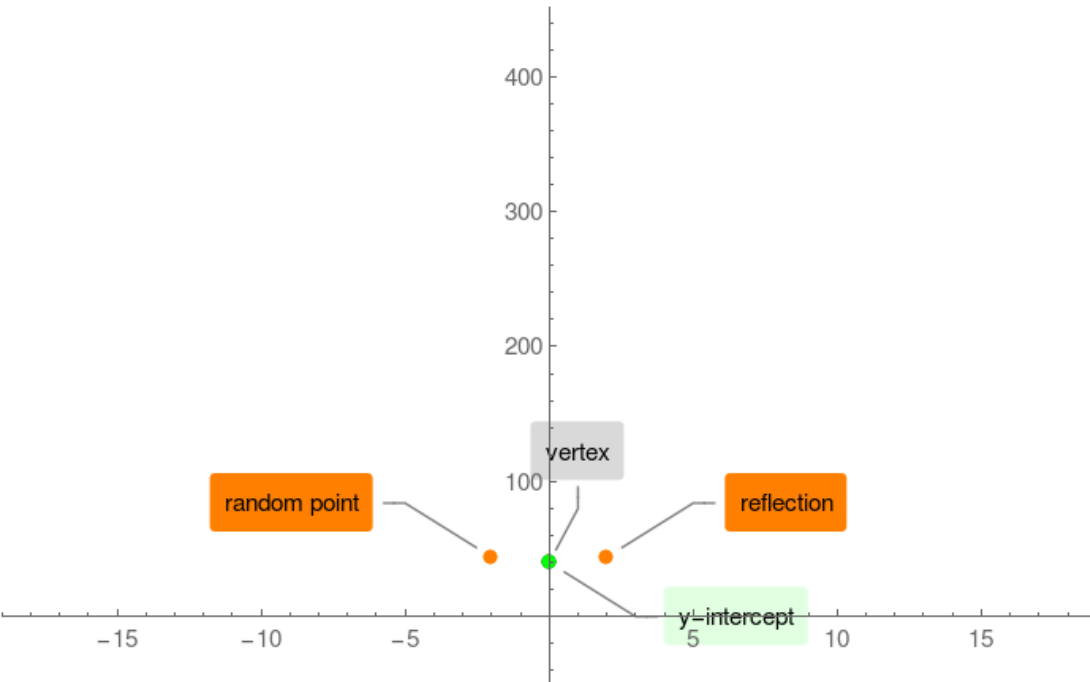Instead compute an arbitrary point on any side of vertex:
Random point = (-2, 44)
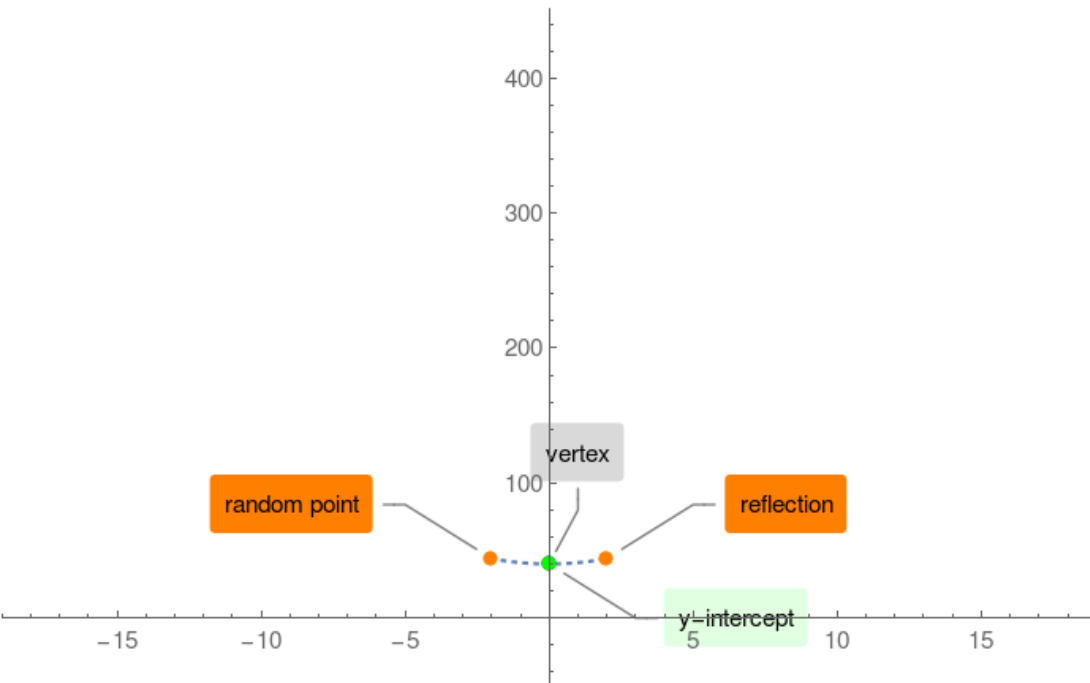

Step 4.
Reflect the point against the vertex's vertical axes:
Reflection = (2, 44)

Step 5.
connect the above computed points:

Step 6.
Extend the parabola beyond the range of intercepts