

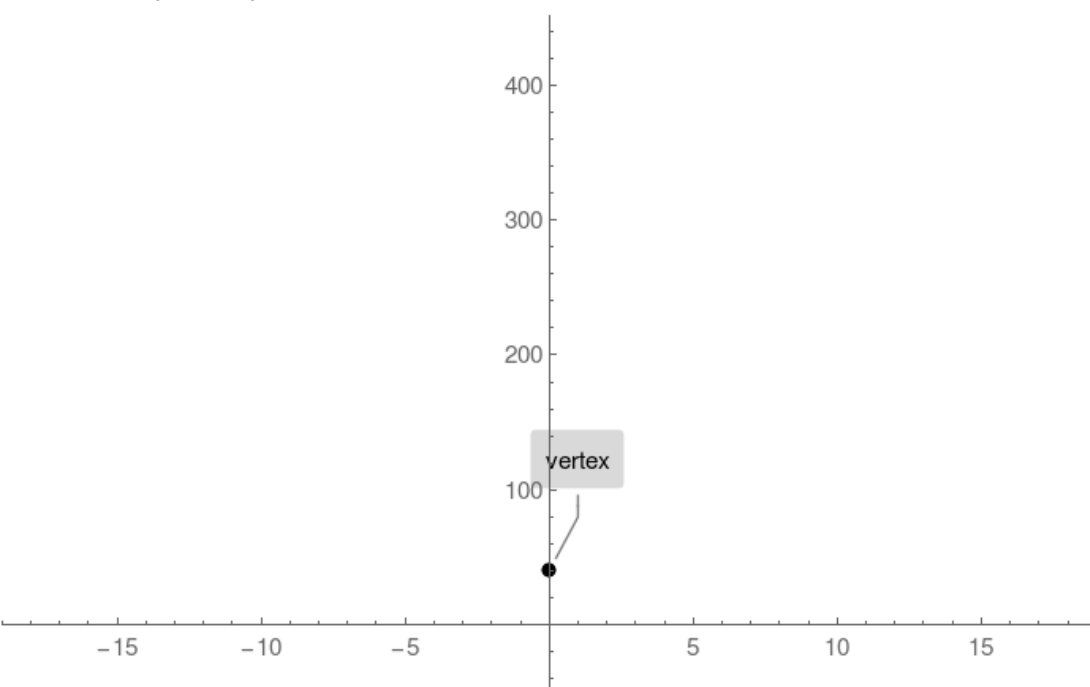
### Example 3. Vertex equal to vertical intercept

Plot  $z(f) = f^2 + 40$

#### Step 1.

Compute vertex and plot single point:

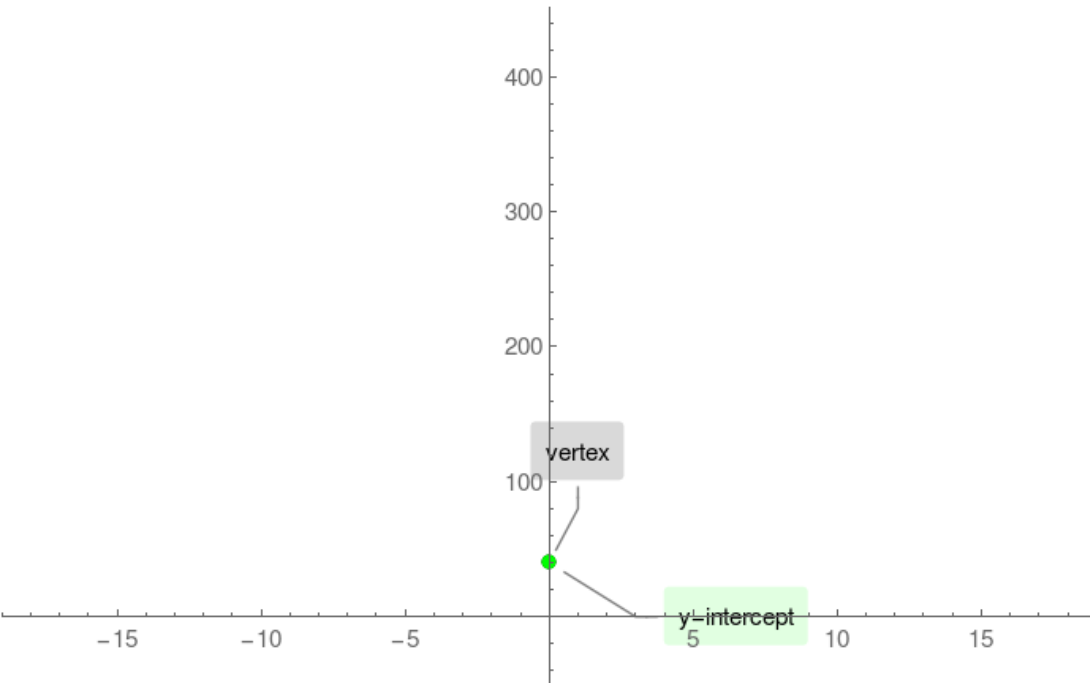
vertex = (0, 40)



#### Step 2.

Compute z-intercept and plot single point:

z-intercept = (0, 40)

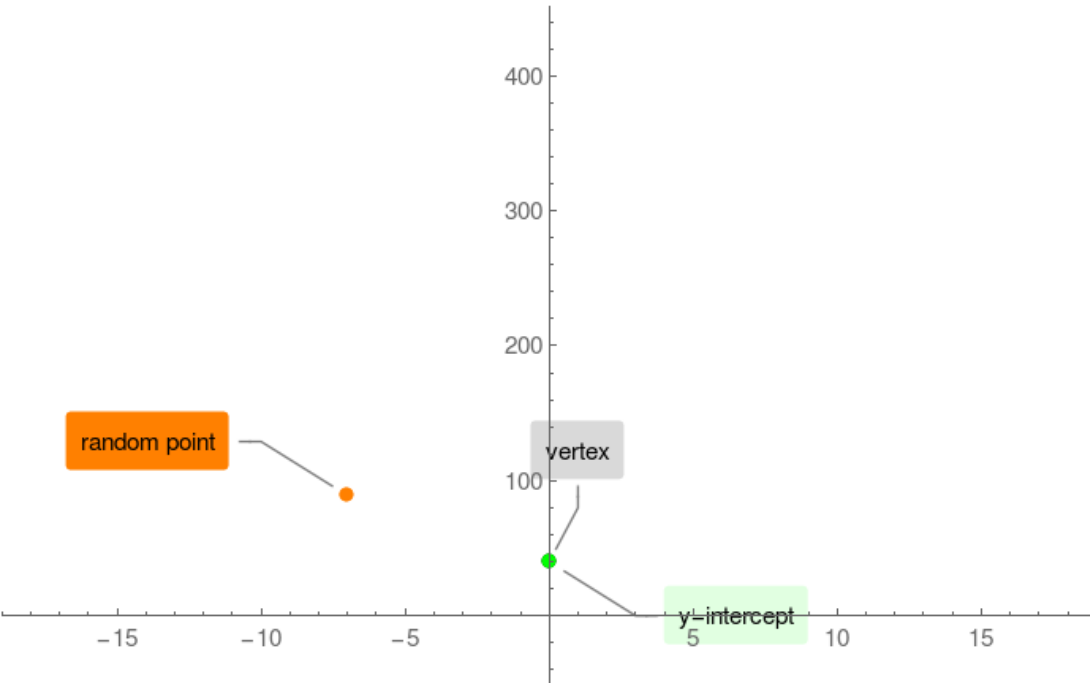


#### Step 3.

There are no f-intercepts!

Instead compute an arbitrary point on any side of vertex:

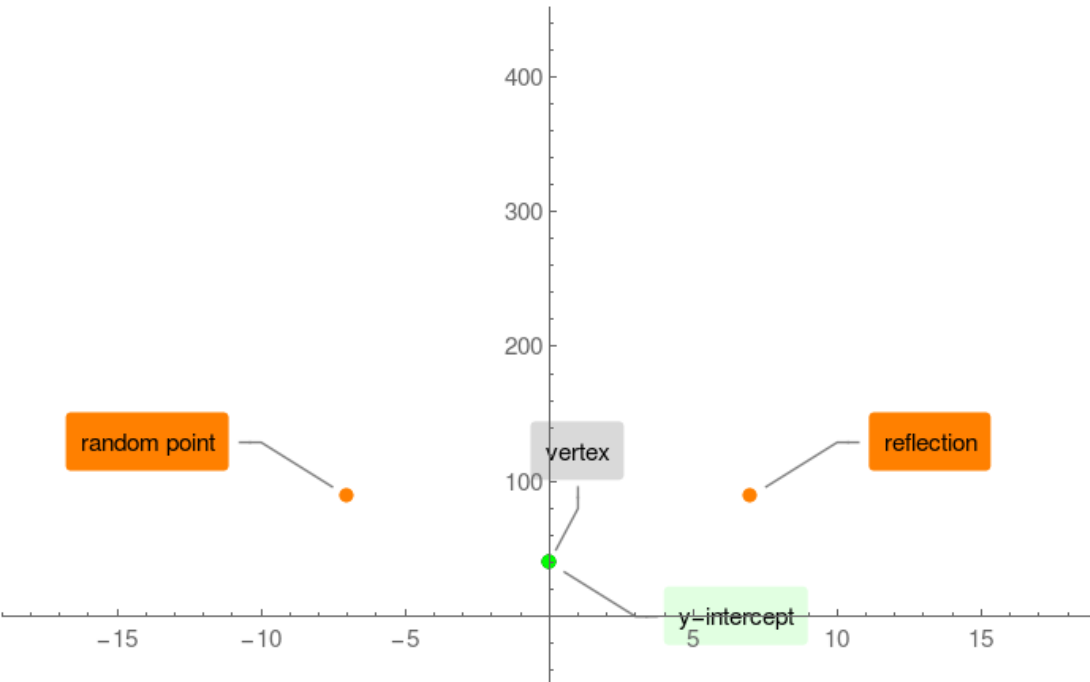
Random point = (-7, 89)



#### Step 4.

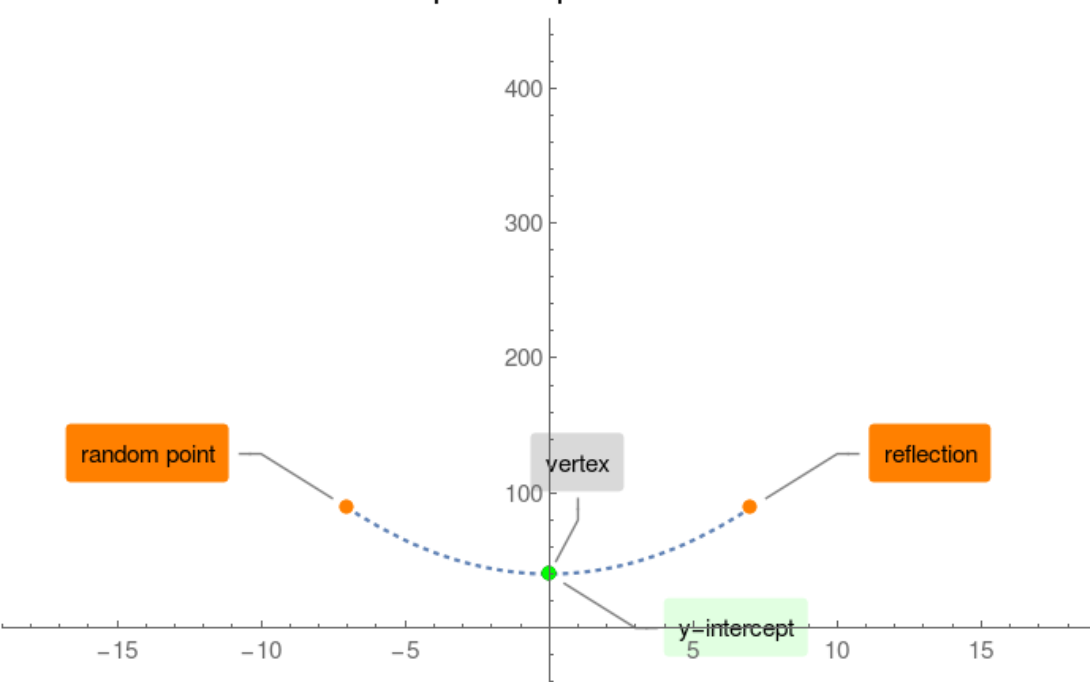
Reflect the point against the vertex's vertical axes:

Reflection = (7, 89)



#### Step 5.

connect the above computed points:



#### Step 6.

Extend the parabola beyond the range of intercepts

