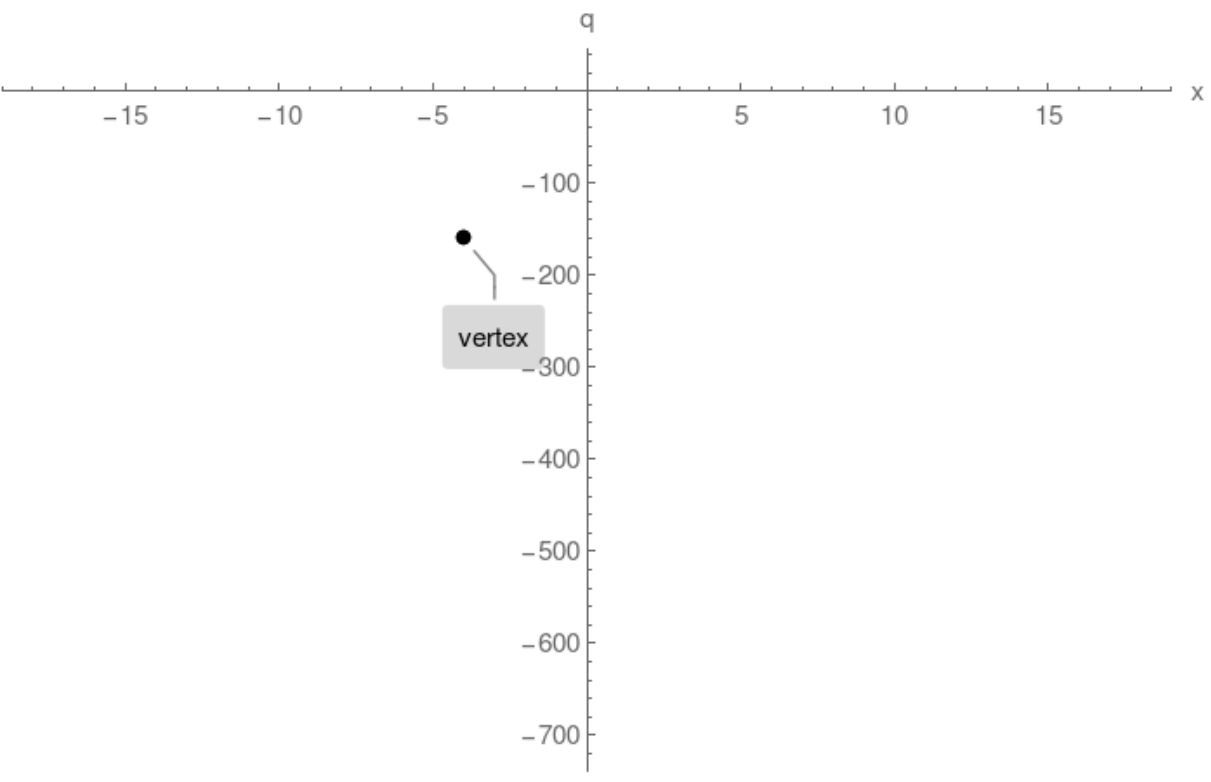
Example 2. No horizontal intercepts found

Plot $q(x) = -x^2 - 8x - 176$

Step 1.

Compute vertex and plot single point:

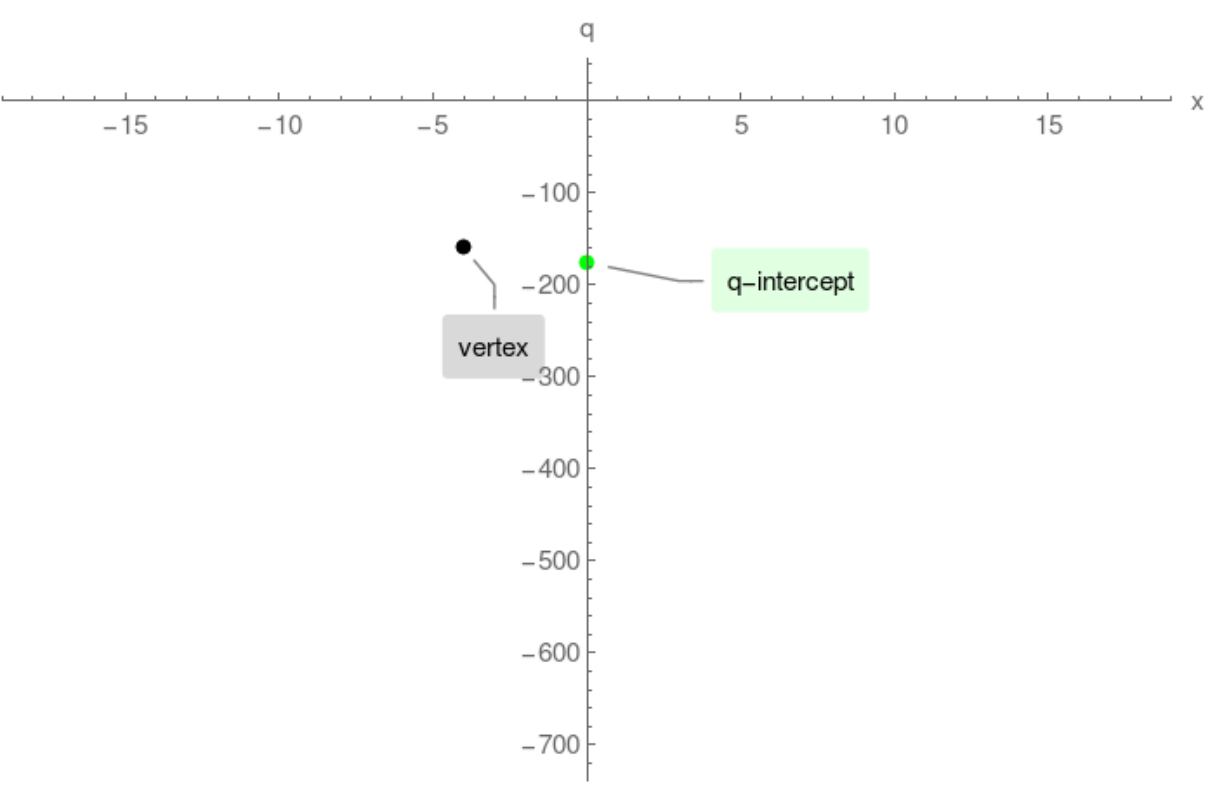
vertex $= (-4, -160)$



Step 2.

Compute q-intercept and plot single point:

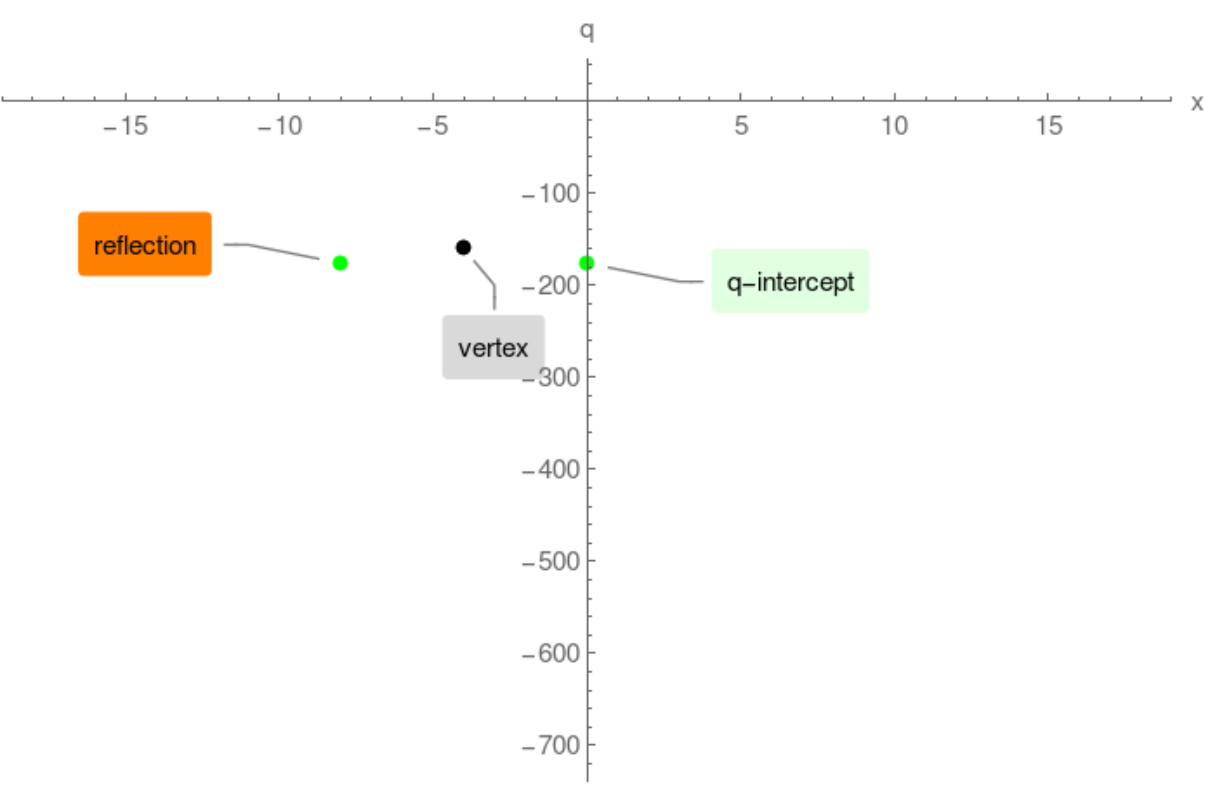
q-intercept $= (0, -176)$



Step 3.

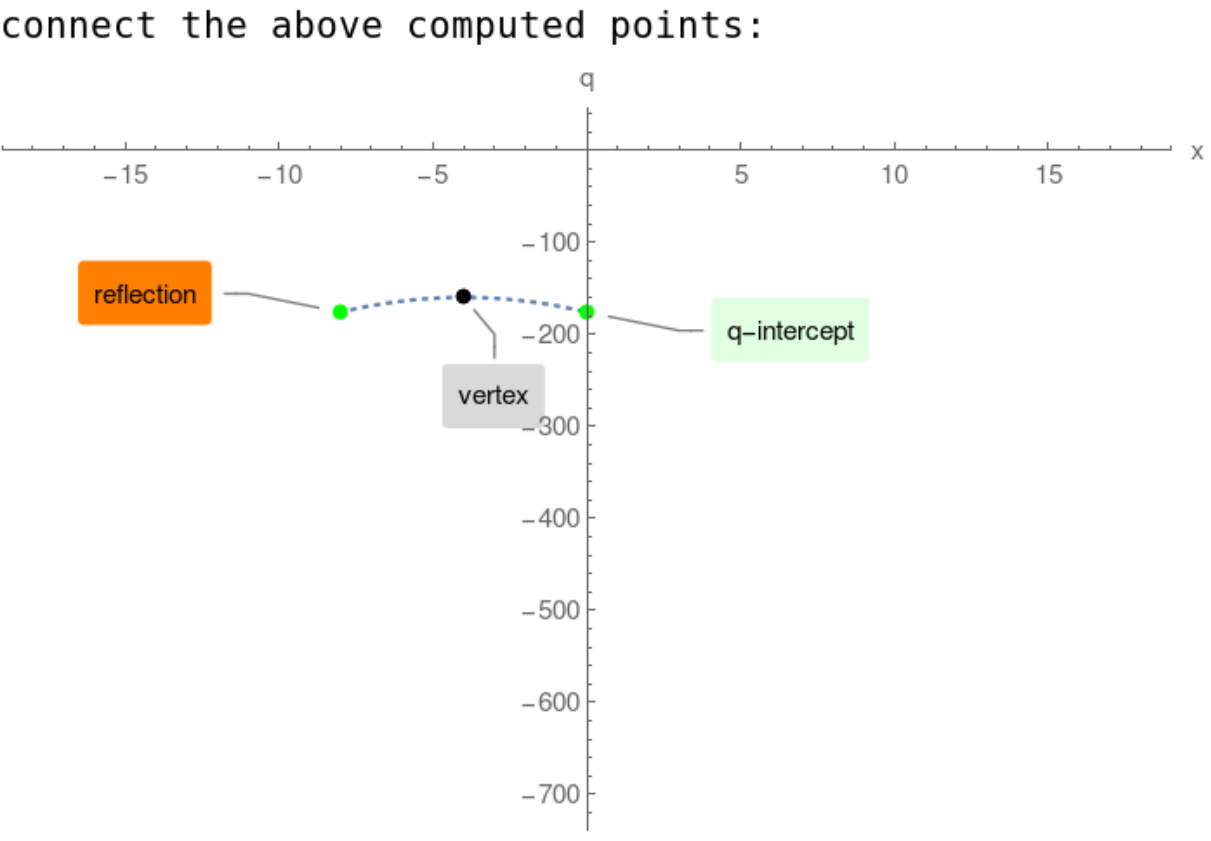
Compute q-intercept reflected against vertex,

reflection $= (-8, -176)$



Step 4.

connect the above computed points:



Step 5.

Extend the parabola beyond the range of intercepts