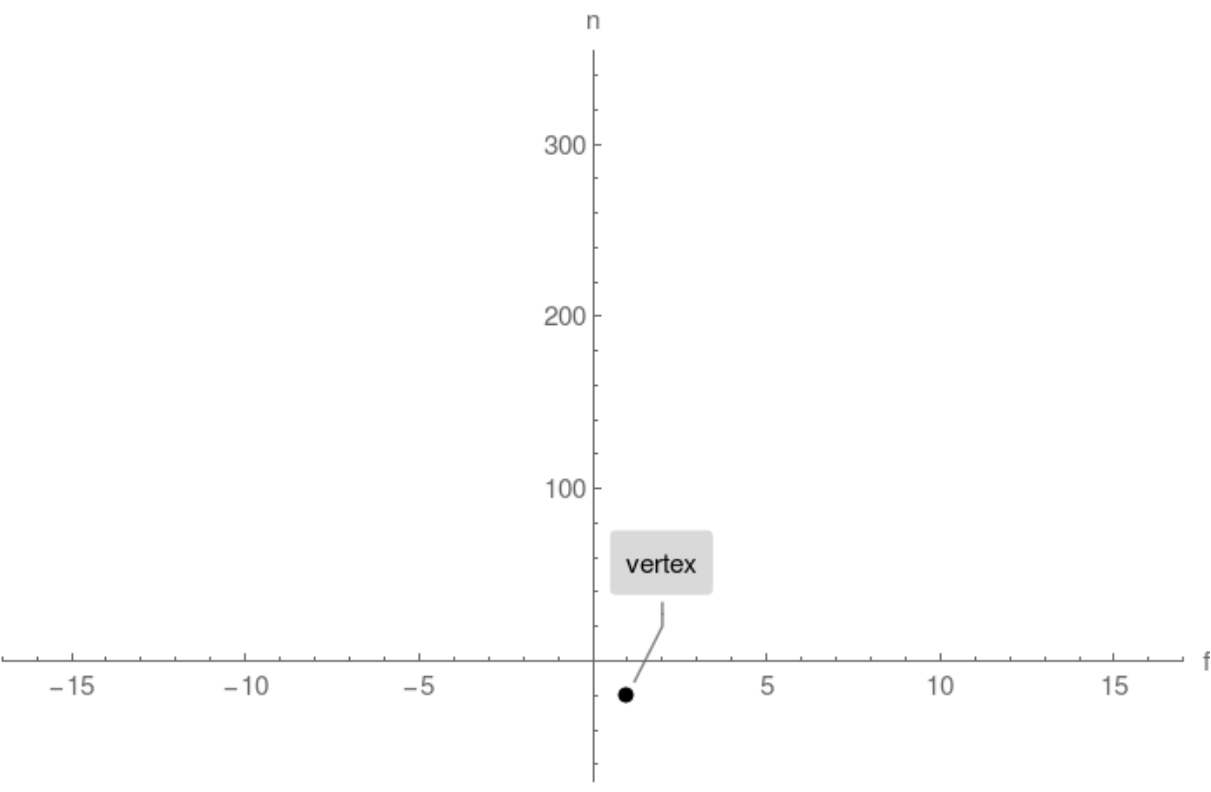
Example 1. 2 horizontal intercepts found

Plot $n(f) = f^2 - 2f - 19$

Step 1.

Compute vertex and plot single point:

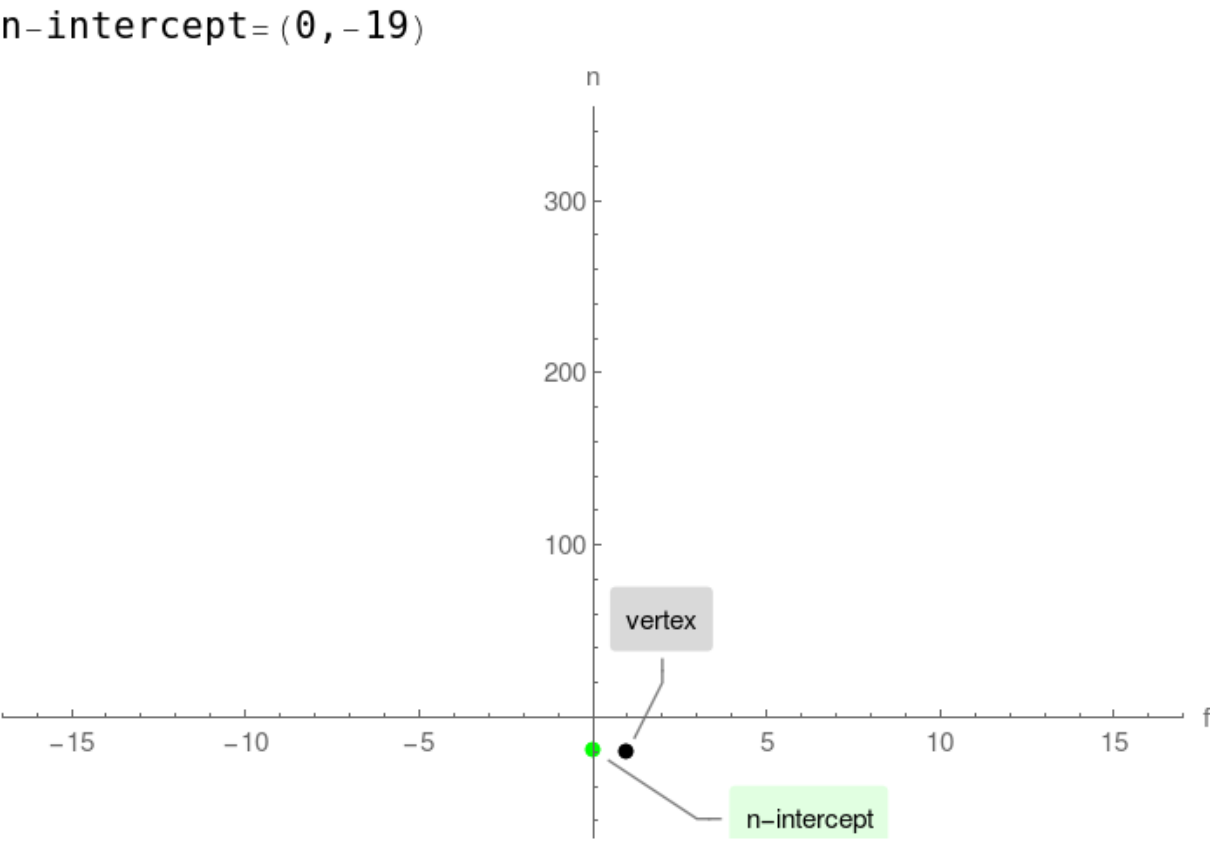
vertex$=(1,-20)$



Step 2.

Compute n-intercept and plot single point:

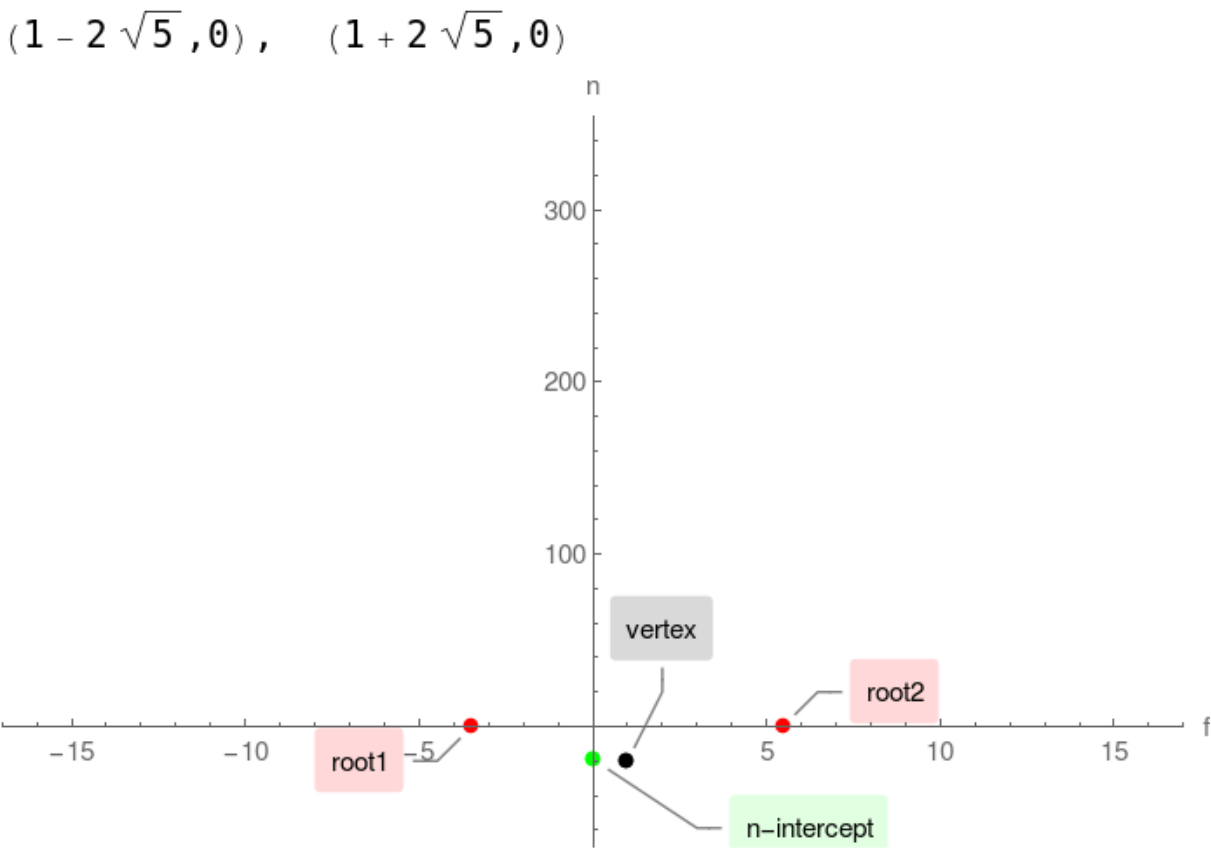
n-intercept$=(0,-19)$



Step 3.

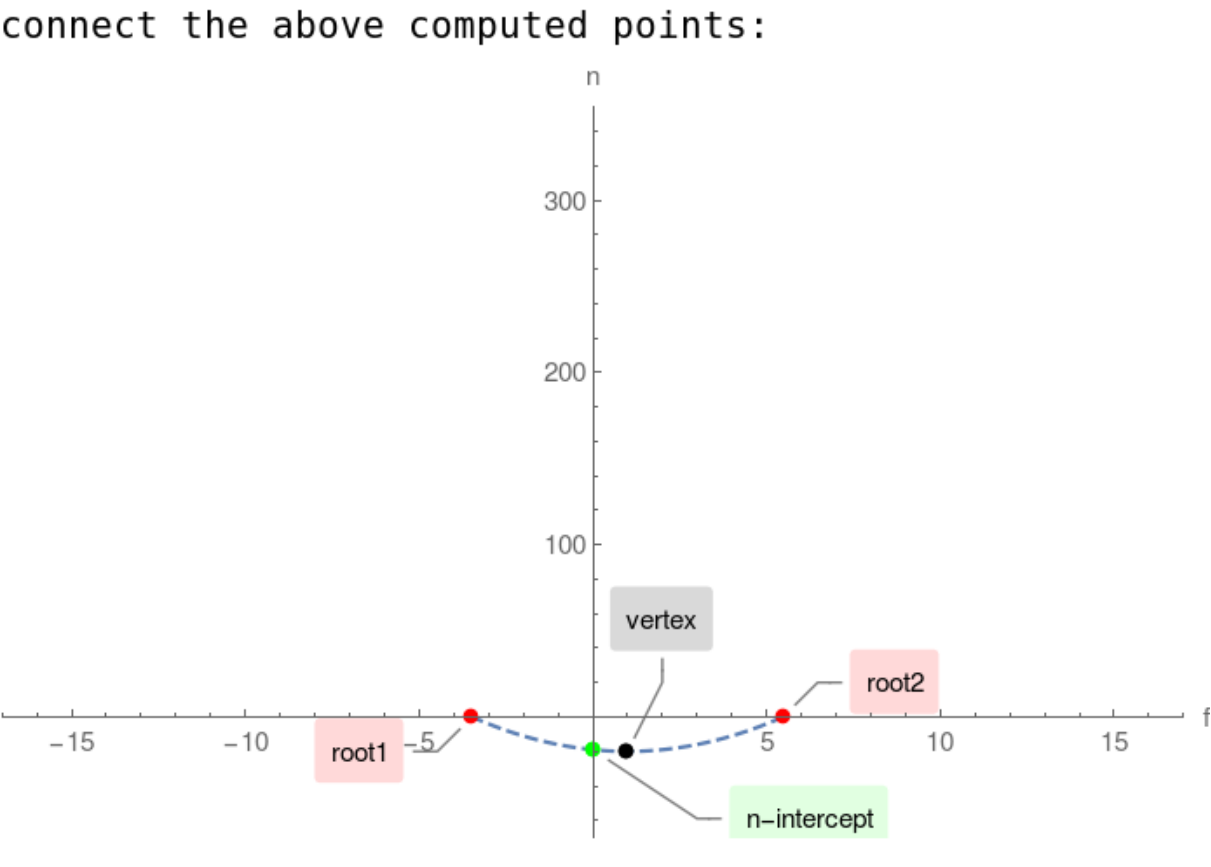
Compute f-intercepts by solving $f^2 - 2f - 19 = 0$:

$(1 - 2\sqrt{5}, 0)$, $(1 + 2\sqrt{5}, 0)$



Step 4.

connect the above computed points:



Step 5.

Extend the parabola beyond the range of intercepts