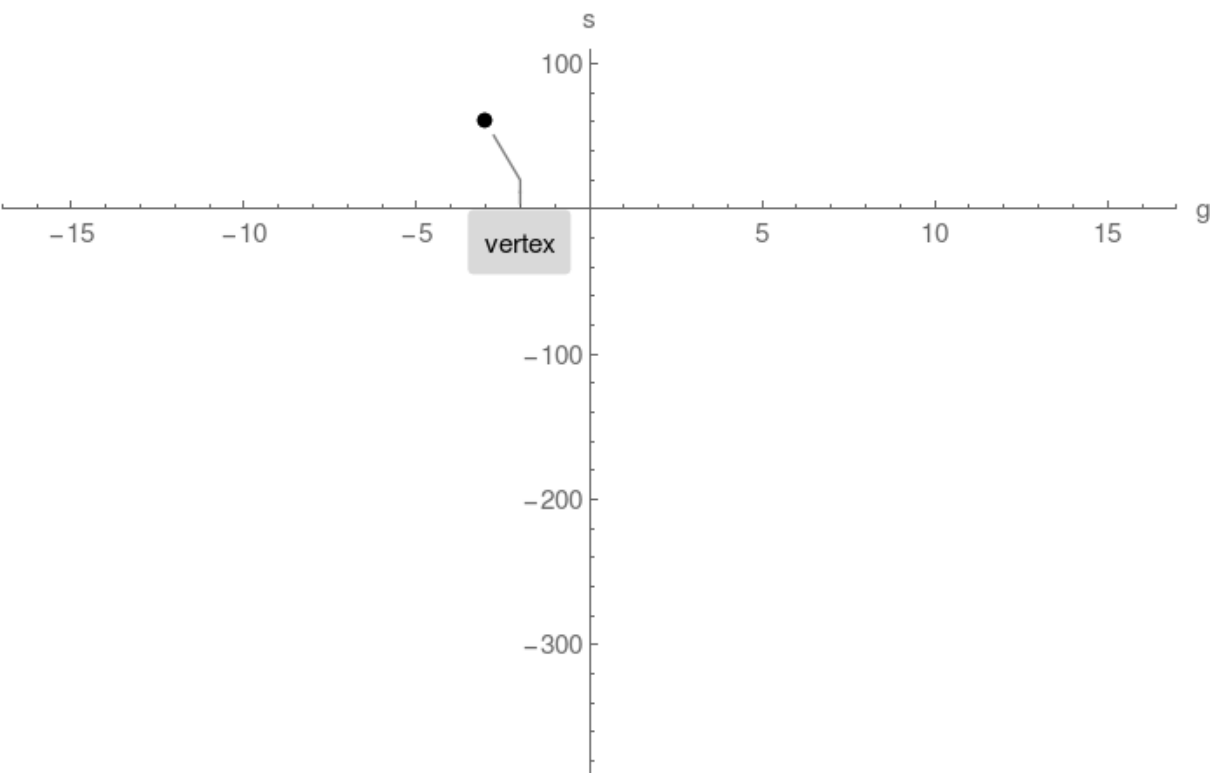# Example 1. 2 horizontal intercepts found

Plot $s(g) = -g^2 - 6g + 51$

Step 1.
Compute vertex and plot single point:
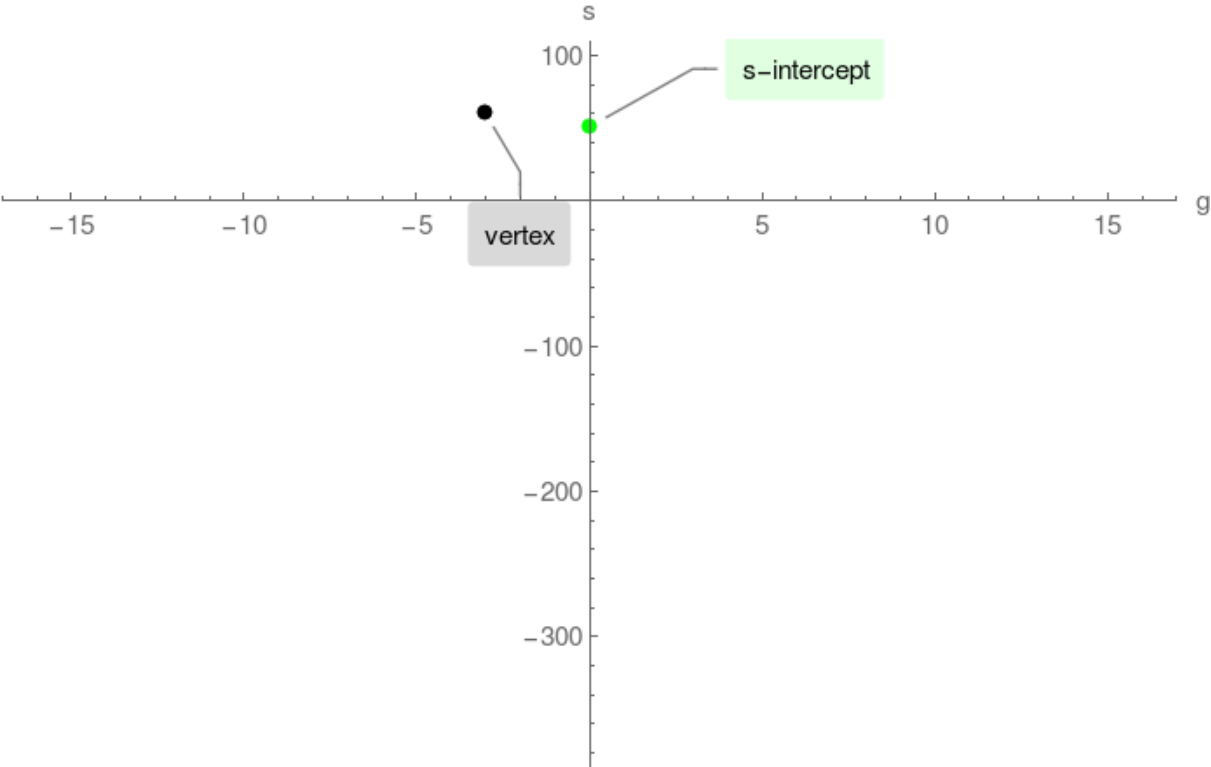$$vertex = (-3, 60)$$

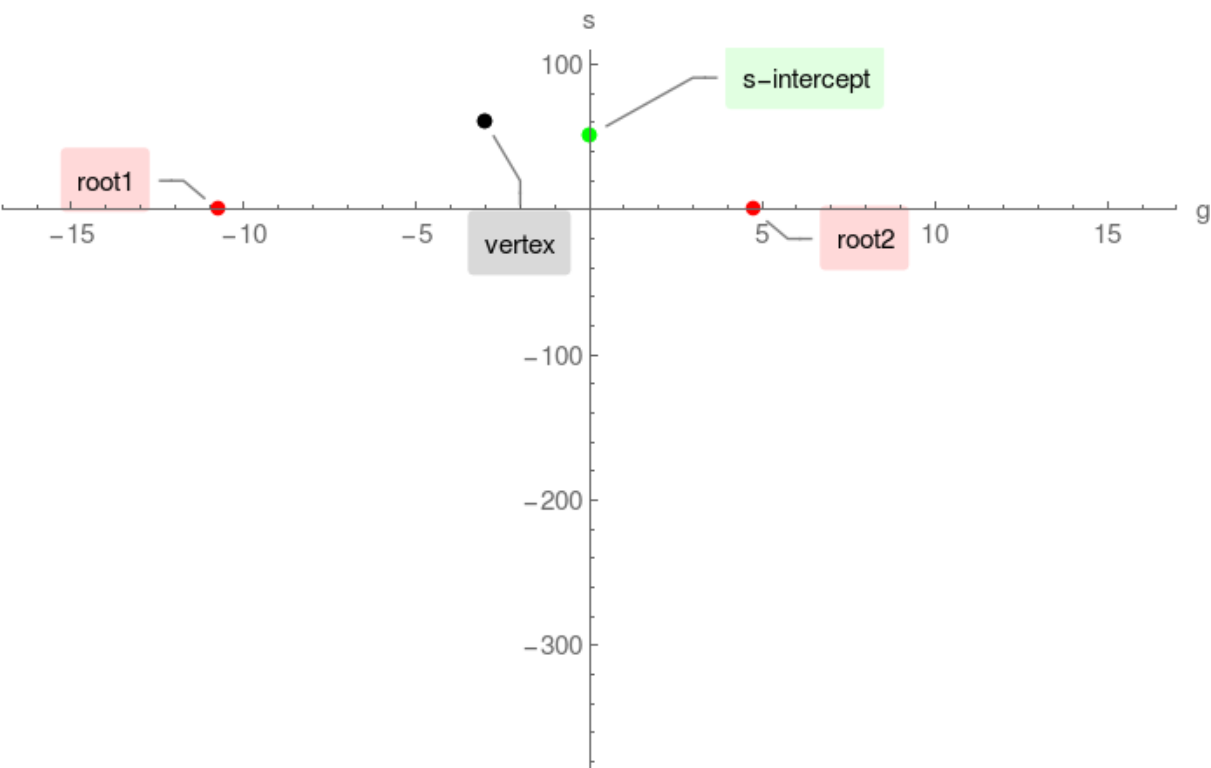**Step 2.**
Compute s-intercept and plot single point:
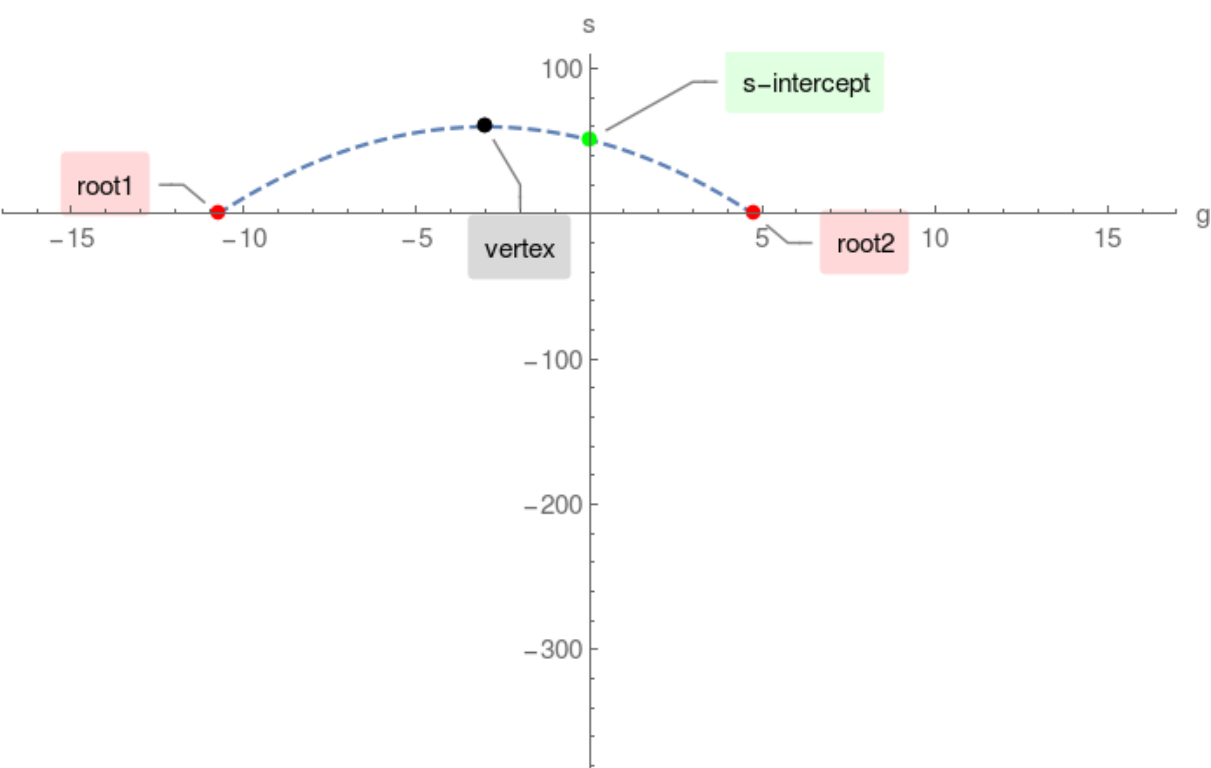$$s\text{-intercept} = (0, 51)$$

Step 3.
Compute g-intercepts by solving $-g^2 - 6g + 51 = 0$:
$$(-3 - 2\sqrt{15}, 0), \quad (-3 + 2\sqrt{15}, 0)$$

Step 4.
connect the above computed points:

Step 5.
Extend the parabola beyond the range of intercepts