

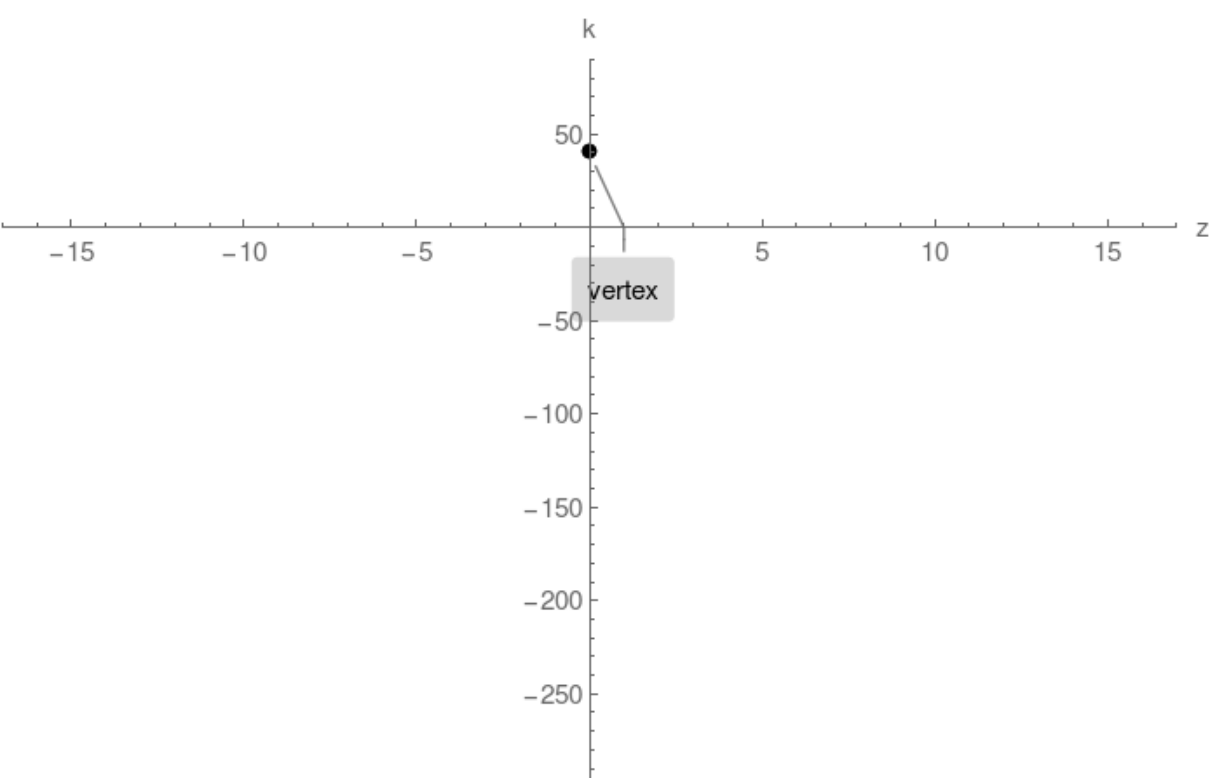
## Example 1. 2 horizontal intercepts found

Plot  $k(z) = 40 - z^2$

### Step 1.

Compute vertex and plot single point:

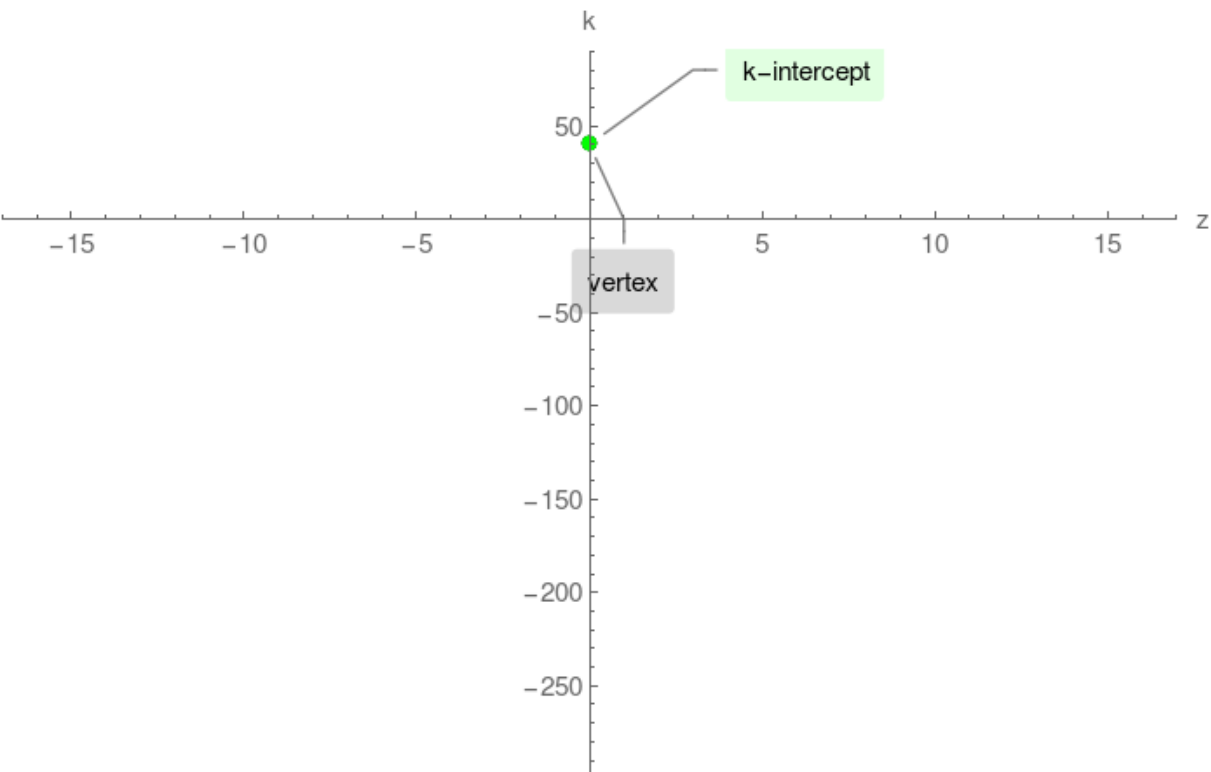
vertex =  $(0, 40)$



### Step 2.

Compute k-intercept and plot single point:

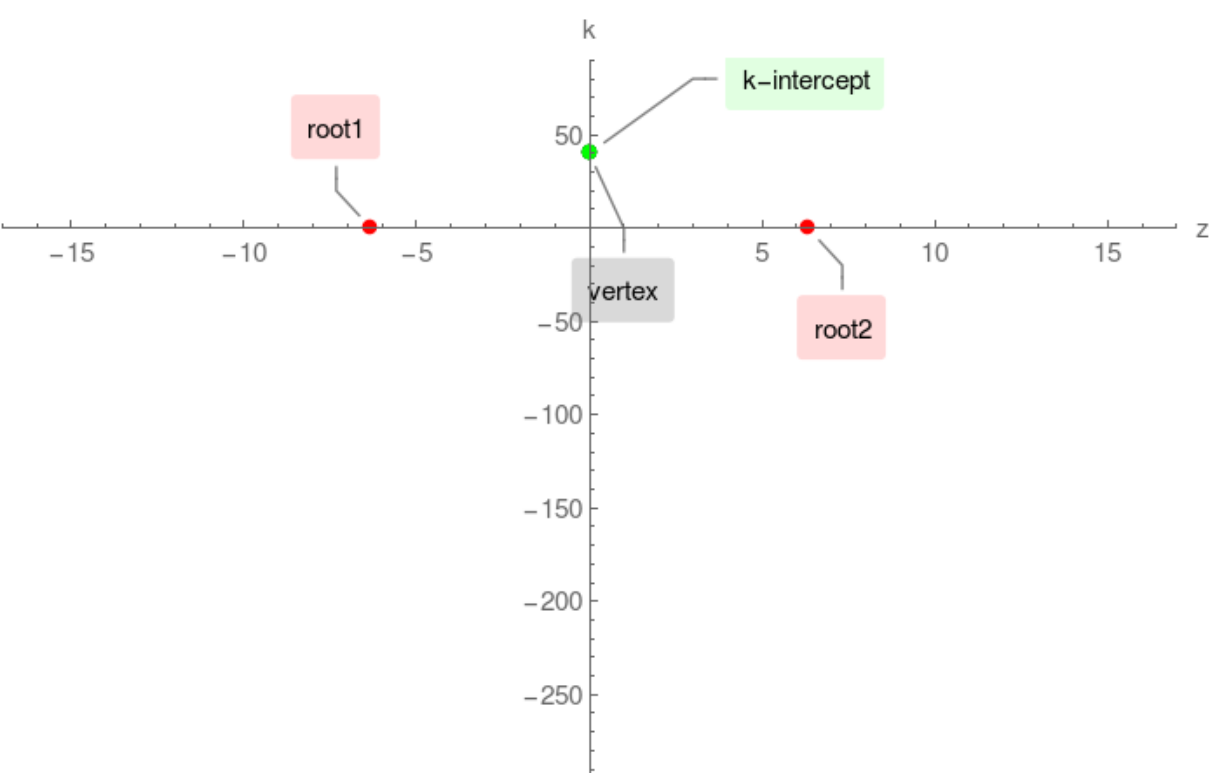
k-intercept =  $(0, 40)$



### Step 3.

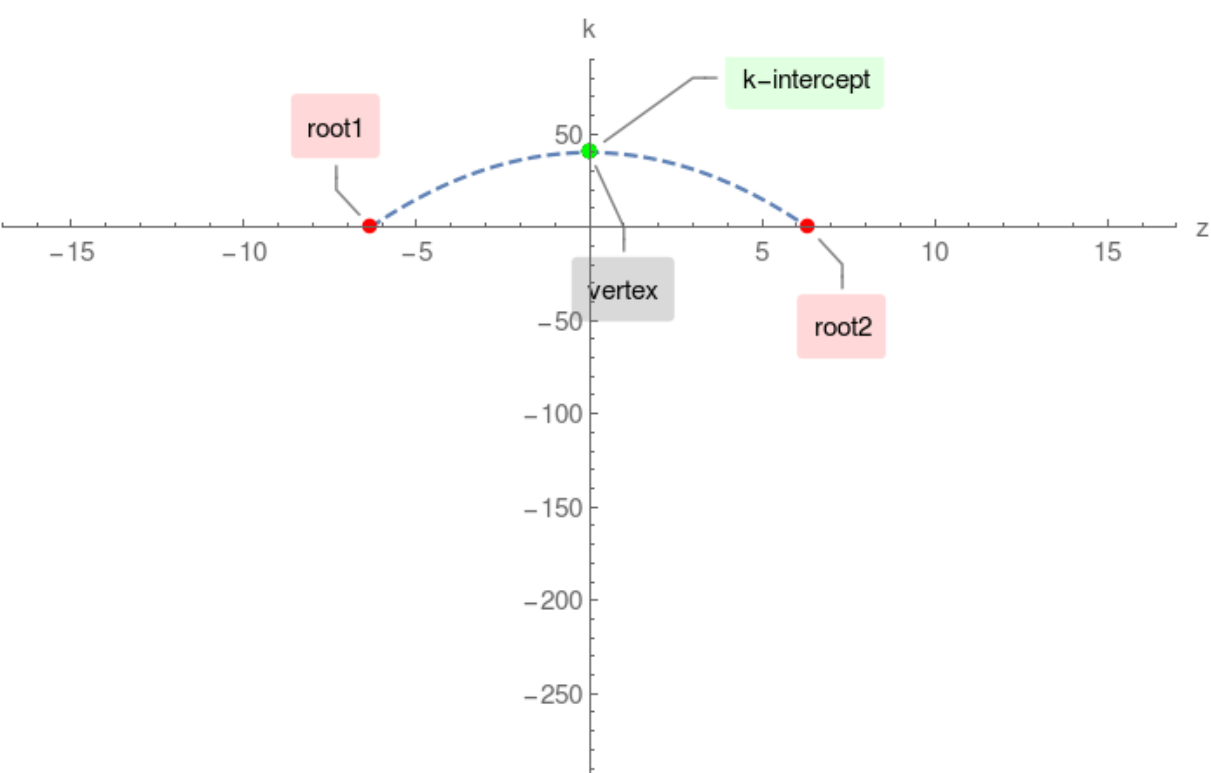
Compute z-intercepts by solving  $40 - z^2 = 0$ :

$(-2\sqrt{10}, 0)$ ,  $(2\sqrt{10}, 0)$



### Step 4.

connect the above computed points:



### Step 5.

Extend the parabola beyond the range of intercepts

