TAKS Objective 5
TEK A.10B
Tutorial
(Grades 10 and 11)

…make connections among the solutions (roots) of quadratic equations, the zeros of their related functions, and the horizontal intercepts (x-intercepts) of the graph of the function.

The zeros, roots, and x-intercepts are related. While they are not exactly identical, they are very similar.

For our purposes, we can interchange these words.

If a problem asks for zeros or roots, look at the graph and find the x-intercepts.

When looking at the graph on your graphing calculator, reset your calculator first so that you may count the tick marks on the calculator, if you choose.

Find the zeros of

$y = 1/3\,(x - 4)(x + 2)$.

Clear the calculator. (2^{nd}, +, 7, 1, 2)

Put the equation in y_1.

Look at the graph.

The x-intercepts are -2 and 4.

x	y
-3	24
-2	15
-1	8
0	3
1	0
2	-1
3	0
4	3

Find the roots.

Roots = x-intercepts

To find the x-intercept, y must be 0.

Answer:

1 and 3