**Colorado Technical University**

 **Course:** MATH116 – Foundations for Calculus

# Unit 3 Part 05 Readings: Zeros

**Zeros**

If ƒ(value) = 0 then value is called a “zero” of the function

This is the same as finding all the values of the function for which y=0

If the values are real numbers, they are called “**real zeros**”

If the values are complex numbers, they are called “**complex zeros**”

The real zeros are the x-values of the points where the curve crosses the x-axis

(where y=0)

 Quadratic equations are of the form: *ax*2 + *bx* + *c* = 0

 So, they are the zeros for the parabola!

 Solving for "x":

 Solve by factoring the equation and using the zero-product principle:

, *a* ≠ 0

 if *AB* = 0, then *A* = 0 or *B* = 0

 Or solve using the quadratic formula:

 Or a graphing calculator

 Or the url: wolframalpha.com

Because the quadratic equation formula can have a negative value for$ x=\frac{-b\pm \sqrt{b^{2}-4ac}}{2a}$

the solutions can be complex

 If the values are complex numbers, they are called “complex zeros”