

LT 3.4 Solving by Graphing (1 solutions / 1 solution) NO solutions

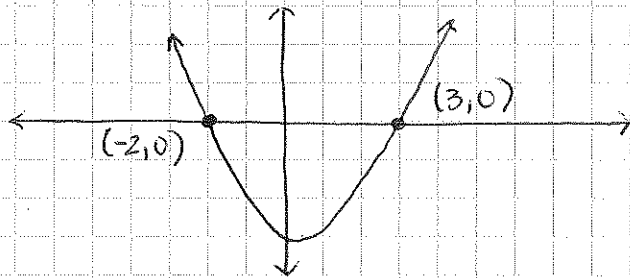
Quadratic Function

$$f(x) = ax^2 + bx + c, \text{ where } a \neq 0$$

Solve

The solutions of a quadratic equation are called the **ROOTS** of the equation.

One method of finding the roots of a quadratic equation is to find the zeros of the related quadratic function.



Roots are the x-intercepts of the graph

$$x = 3 \text{ and } x = -2$$

$$y = 0$$

Possible investigation
Graphing

Ex 1: Solve $x^2 - 3x - 4 = 0$ by graphing

Related function is $x^2 - 3x - 4 = f(x)$

Method 1: Table

x	-1	0	1	1.5	2	3	4
f(x)	0	-4	-6	-6.25	-6	-4	0

* We will use both methods

* 2 solutions

Quiz #1
LT 3.1-3.3

Meth

of Axis of symmetry

$$x = \frac{-b}{2a} = 1.5$$

$$f(1.5) = (1.5)^2 - 3(1.5) - 4 = -6.25$$

vertex $(1.5, -6.25)$

