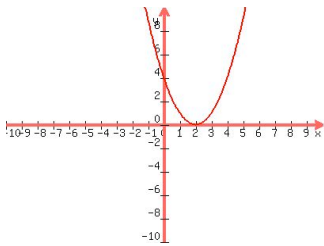


## 6-2 Solving Quadratic Equations by Graphing

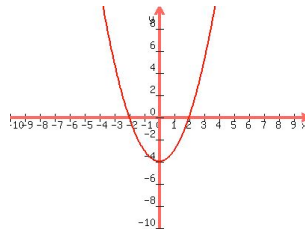
**Objective:** Solve quadratic equations by graphing.  
 Estimate solutions of quadratic equations by graphing.

\*\*The solutions to a quadratic are called roots. We find them by finding the zeros of the function. The zeros are the x-intercepts.

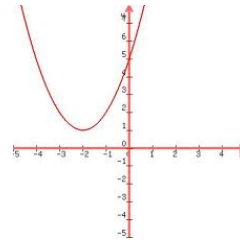
### 3 Possibilities



One Real Solution



Two Real Solutions



No Real Solutions

EX 1. Solve  $x^2 - 3x - 4 = 0$  by graphing.

$x = -1, 4$

\* Use graphing calculator  
 - 2nd trace  
 - choose zero

EX 2. Solve  $x^2 - 4x = -4$  by graphing.

$x^2 - 4x + 4 = 0$   
 "Must be set equal to 0"

$x = 2$

EX 3. Solve  $x^2 + 5 = 4x$  by graphing.

$x^2 + 5 - 4x = 0$

No real solutions

$x = -4.828, .828$

EX 4. P.296 discuss Ex 5., graphs, and do #22.

$h(t) = -16t^2 + h_0$   
 → initial height