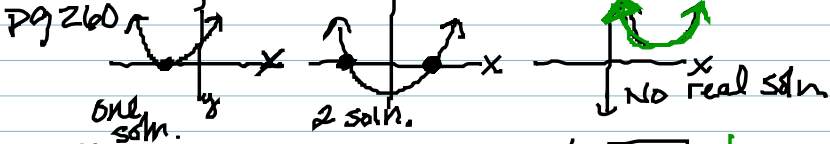


# Unit 5r2: Solving Quadratic Equations by Graphing Finding zero's or Roots.



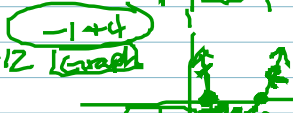
Ex #1:  
 $x^2 - 3x - 4 = 0$

$y = x^2 - 3x - 4$  **Graph**  
**zero's**



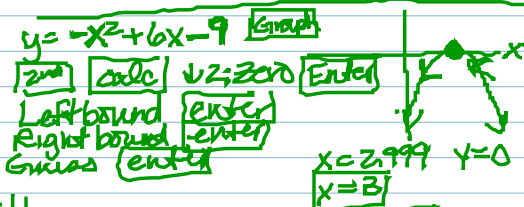
1B:  $x^2 - 8x = -12$   
 $\quad +12 \quad +12$   
 $x^2 - 8x + 12 = 0$

$y = x^2 - 8x + 12$  **Graph**  
**-1 + 4**



Ex #2:  
 $14 - x^2 = -6x + 23$   
 $-x^2 + 14 = -6x + 23$   
 $\quad +6x \quad +6x$   
 $-x^2 + 6x + 14 = 23$   
 $\quad -23 \quad -23$   
 $-x^2 + 6x - 9 = 0$

**2nd** **calc** **↓ zero** **enter**  
Left bound **enter** **x=2** **y=0**  
Right bound **enter** **x=6** **y=0**  
Guess **enter**



Ex #4 (261)

x	0	1	2	3	4	5	6
f(x)	4	-1	-4	-5	-4	-1	4

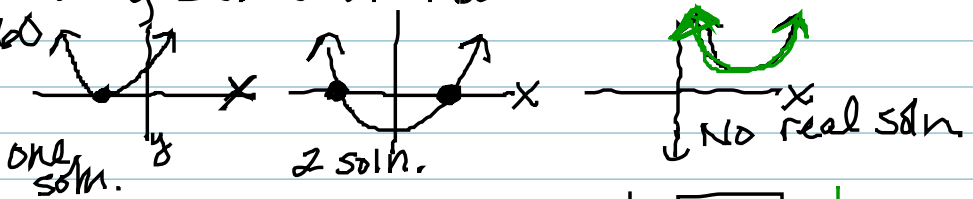
**2nd** **mani** **4** **clear all list** **enter**  
**stat** **EDIT** **enter**  $\frac{1}{5}$   $\frac{1}{5}$   
**2nd** **stat** **1** **enter**  $\frac{1}{5}$   $-\frac{1}{5}$   
**Graph** **enter**  $\frac{1}{5}$   $\frac{1}{5}$

**#80** **y=clear** **Graph**  
**stat**  $\rightarrow$  **calc** **5: Quad**  
 $y = -2.49x^2 - 22.48x - 5$   
**y=** **vars** **5:stat**  $\rightarrow$  **20**

**Graph** **enter** **5: QuadReg** **enter** **x=-3.11**  
**2nd** **calc** **↓ zero** **x=-6.025**  
**y=vars** **5: statistics**  $\rightarrow$  **ED** **enter** **graph** **x=5.28**  
**x=7.16**

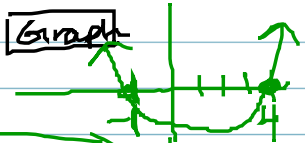
# Unit 5-2: Solving Quadratic Equations by Graphing Finding Zero's or Roots.

Pg 260



Ex #1:  
 $x^2 - 3x - 4 = 0$

$y = x^2 - 3x - 4$  [Graph]  
 [Zoom] 6



1B:  $x^2 - 8x = -12$   
 $\quad +12 \quad +12$   


---

 $x^2 - 8x + 12 = 0$

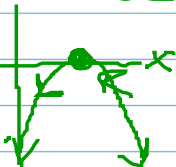
$y = x^2 - 8x + 12$  [Graph]  
 [-1 + 4]



[2nd] [Calc] ↓ 2: zero [Enter] 2.0  
 Left bound [Enter] X=2 Y=0  
 Right bound [Enter] X=6.0 Y=0  
 Guess [Enter]

Ex #2:  
 $14 - x^2 = -6x + 23$   
 $-x^2 + 14 = -6x + 23$   
 $\quad +6x \quad +6x$

$y = -x^2 + 6x - 9$  [Graph]



$-x^2 + 6x + 14 = 23$   
 $\quad -23 \quad -23$   


---

 $-x^2 + 6x - 9 = 0$

[2nd] [Calc] ↓ 2: zero [Enter]  
 Left bound [Enter]  
 Right bound [Enter]  
 Guess [Enter]

X=2.999 Y=0  
 X=3

Ex #4 (261)

x	0	1	2	3	4	5	6
f(x)	4	-1	-4	-5	-4	-1	4

#3D

y = clear [Graph]

[2nd] [xmem] 4 clear all list [Enter]

[stat] → calc 5: Quad [Enter]

[stat] 1: Edit [Enter] 4 4  
 6 4

$y = -2.48x^2 - 22.48x - 45$

[2nd] [stat] [y=] clear 3  
 -11  
 -5

[Graph]

[y=] [vars] 5: stat → 2Q  
 [Enter] [Graph]

[Calc] 5: Quad Reg enter X=-3.025  
 X=-6.025

[2nd] [Calc] ↓ zero

$y = x^2 - 6x + 4$

X=5.23

[y=] [vars] 5: statistics → EQ enter graph

X=1.76