Warm Up

Why isn't a snowman very smart?

He has snow brains

Have you every heard of the planet Saturn?

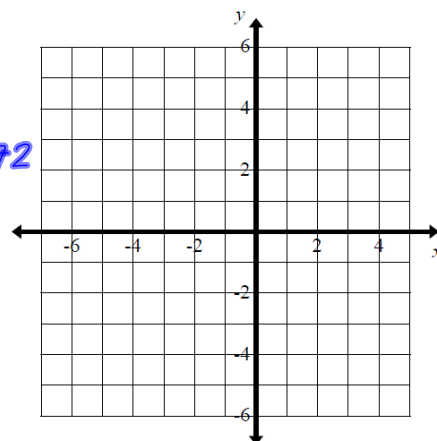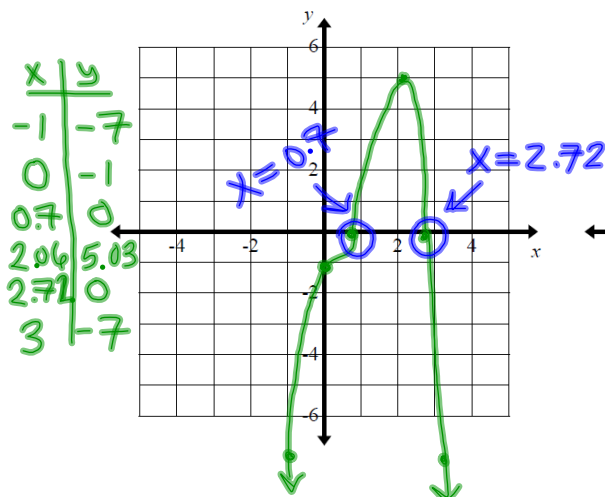**6.3B   Finding Real Solutions of Polynomial Equations Graphically**

Section

6.3B

We can solve polynomial equations graphically in the exact same manner that we solved quadratic, cubic, and exponential equations graphically.

Roots, zeros, factors, solutions   page 120

1) Using your graphing calculator, find the x-intercepts of the following polynomial functions. Sketch the graph of the function and indicate the location of the solutions on your graph.

# of
degree = solutions

a) $y = -x^4 + 3x^3 - x^2 + x - 1$

4 degree

b) $g(x) = \frac{1}{4}x^5 + \frac{7}{4}x^3 + \frac{9}{4}x^2 - \frac{7}{4}x - \frac{10}{4}$

5 degree

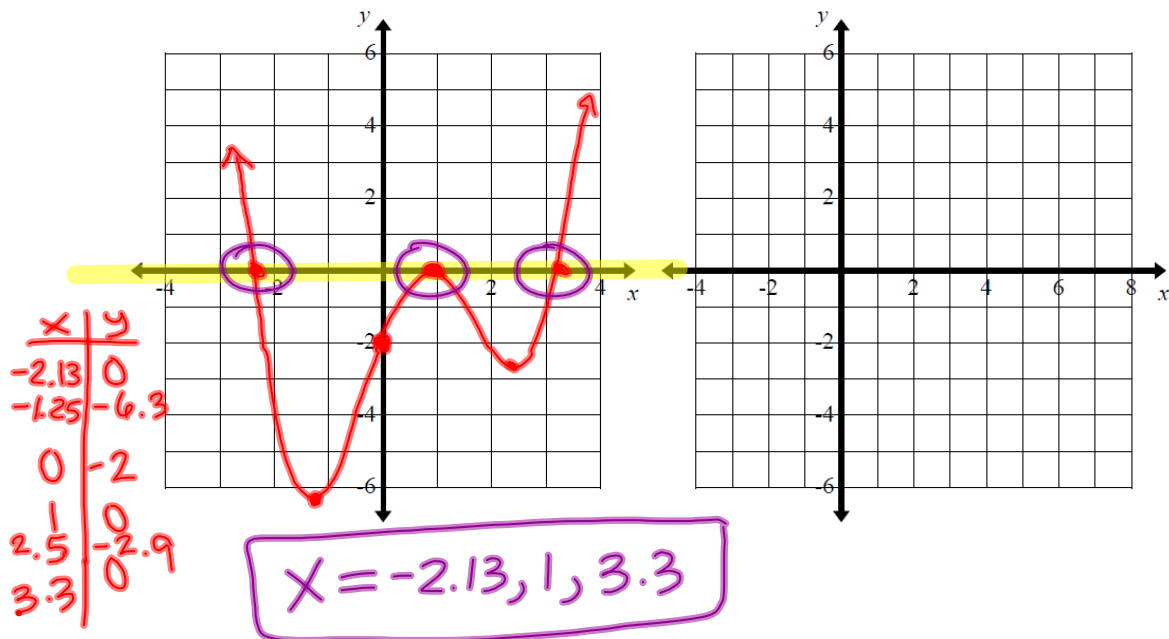| x	y
-1	-7
0	-1
0.7	0
2.06	5.03
2.72	0
3	-7

X=0.7   X=2.72

$(0.7, 0)$ and $(2.72, 0)$

2) Use your graphing calculator to find the solutions to the equation $f(x)=0$. Sketch the graph of function and indicate the location of the solutions on your graph.

a) $f(x)=\dfrac{1}{3}x(x-2)(x+2)(x-3)-2$

b) $f(x)=0.1x^4-0.7x^3+0.1x^2+2.7x+1.8$

x	y
-2.13	0
-1.25	-6.3
0	-2
1	0
2.5	-2.9
3.3	0

$$X = -2.13, 1, 3.3$$
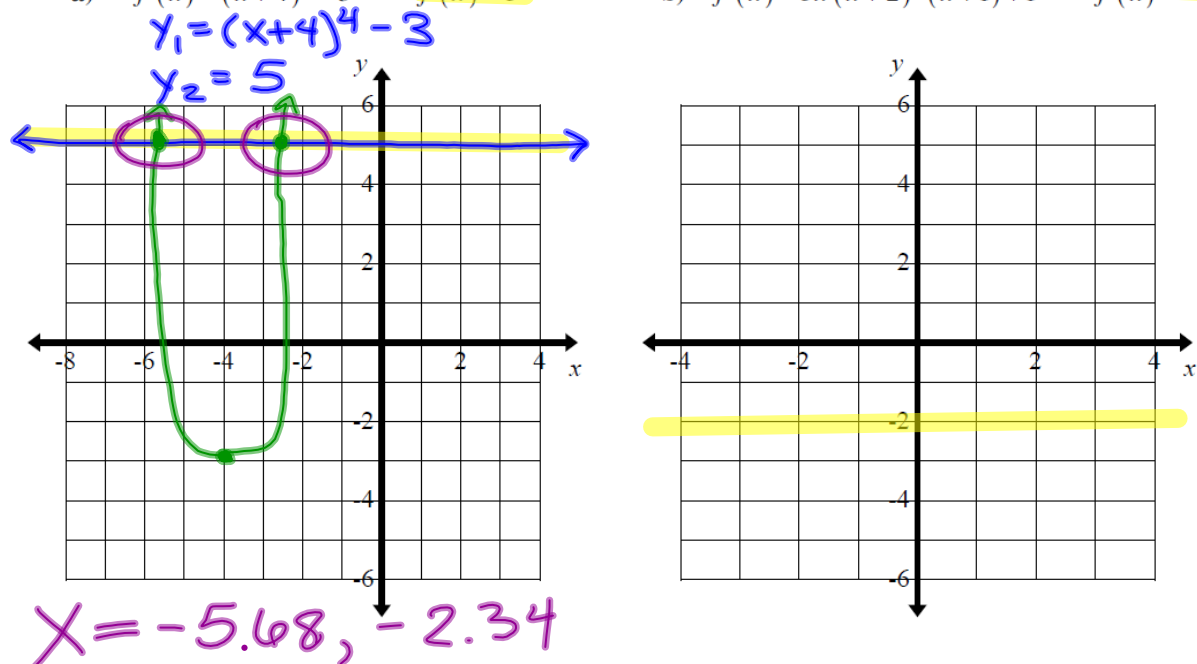
3) Use your graphing calculator to find the solutions to the equation provided. Sketch the graph of the functions and indicate the location of the solutions on your graph.

a) $f(x)=(x+4)^4-3$ $f(x)=5$

$Y_1=(x+4)^4-3$
$Y_2=5$

b) $f(x)=5x(x+2)^3(x+1)+1$ $f(x)=-2$

$$X = -5.68, -2.34$$

HOMEWORK:

	6.2 D		6.2 D #1-9 (P-105)		☹ ☺ ☺	
	6.2 E		6.2 E #1-7, 12, 13 (P-109)		☹ ☺ ☺	
5/11	6.3 A & 6.3 B	I can solve polynomial equations.	6.3A ~~#1-5~~ #1,2 (P-113)		☹ ☺ ☺	
			6.3B ~~#1-9~~ #2,4,6 (P-118)		☹ ☺ ☺	
	6.3 C		6.3C #1-6 (P-123)		☹ ☺ ☺	
	Review	Unit 6 Part 1 Review				

#1 a.   zeros
$$x = -10, -1, 3$$

b.   factors
$$(x+10)(x+1)(x-3)$$

c.   equation
$$(x+10)(x+1)(x-3)$$

$$y =$$