Late Start

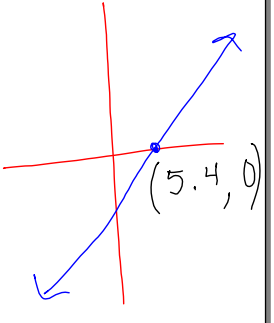
no long warm up either way

You will need your textbook for today's assignment. Be sure to have it in class.

HW Help

Warm Up

Use your GDC to find the x-intercept of $y = \frac{4}{3}x - 7.2$



If absent from my class:

1. **Always check my blog for details, etc**
2. **Always check the Class Papers Basket for...**
3. **Ask for the solutions to the previously scored assignment so you can check your work, etc.**

② $y = 24x + 450$

x	50	100	150	200
y				

$1 = \frac{1}{x-2}$

$\frac{1}{1} = \frac{1}{x-2}$

$x - 2 = 1$

$f(2)$

$= \frac{1}{2-2}$

$= \frac{1}{0}$

= undefined

(5)

$g(x) = \sqrt{x-5}$

$h(x) = x^2 - 6$

a.

b.

6

$h(x) = x^2 - 6$

$h(6) = 6^2 - 6 = 30$

$g(x) = \sqrt{x-5}$

$g(30) = \sqrt{30-5} =$

5

-5 ?

(8) a) Not linear
b) the exponent
c) A parabola

(9) $y = mx + b$ is a straight line.
b represents the y-intercept and
m is the slope.
x is the input, y the outputs

21 d $f(x) = -\frac{2}{3}x + 3$ $g(x) = 2x^2 - 5$

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

(d) Solve $g(x) = -7$

$-7 = 2x^2 - 5$

$+5 \quad +5$

$-2 = 2x^2$

$-1 = x^2$

$\sqrt{\quad} \quad \sqrt{\quad}$

$= x$

Avoid the cycle of destruction.

If you are struggling with the work, don't sit back and do nothing. Seek help or come in early the next day.

Two Goals Today:

I. Use the ZERO PRODUCT PROPERTY (ZPP)

product of factors

$3 \cdot 7 = 21$

do we know anything about the factors ?

$2 \cdot b = 10$

$a \cdot b = 24$

$a \cdot b = 0$

ZPP

if $a \cdot b = 0$
then $a = 0$ or $b = 0$

3 Examples

Solve each quadratic equation using ~~the~~ zero product property

$60x^2 - 23x + 7 = 0$

a) $(3x-4)(2x-5) = 0$

$a \cdot b = 0$

$3x-4=0$ $\quad$ $2x-5=0$

$3x=4$ $\quad$ $2x=5$

$x=\frac{4}{3}$ $\quad$ $x=\frac{5}{2}$

b) $n^2 + 8n = 0$

NO FACTORS, Yet

factor

$n(n+8) = 0$

$a \cdot b = 0$

$n=0$ $\quad$ $n+8=0$

$-8 \quad -8$

$n=-8$

$n^2 \neq 8n$

c) quadratic

zero product property

$4x^2 - 11x - 3 = 0$

$(4x+1)(x-3) = 0$

$a \cdot b = 0$

$4x+1=0$ $\quad -1 \quad -1$

$4x = -1$

$x = -\frac{1}{4}$

$x-3=0$ $\quad +3 \quad +3$

$x = 3$

$(4x+1)(x-3) = 0$

	$4x$	1
x	$4x^2$	x
-3	$-12x$	-3

$-12x^2$

$-11x$

$-12x \cdot x$

$-3x \cdot 4x$

$3x \cdot -4x$

B.B.

In Algebra 1 you learned about the multiple representations of functions:

0	1
-1	4
1	0
2	3

$y = x^2 - 2x + 1$

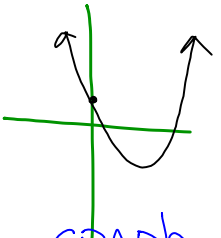


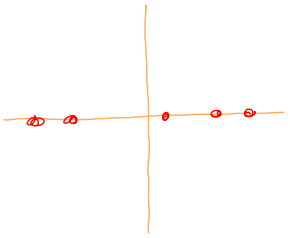
TABLE EQUATION GRAPH

+ Situations

TODAY'S AIM II

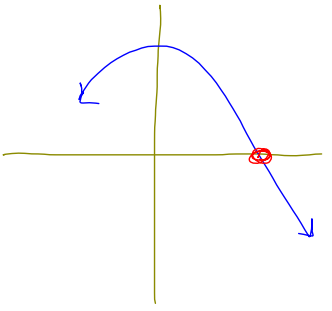
Analyze Functions by Making Complete Graphs

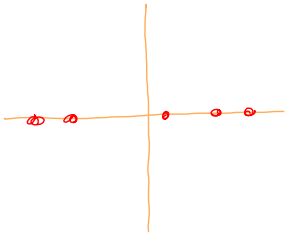
with the help of GDC



Points on the x-axis have y-coordinates of 0

(, 0)





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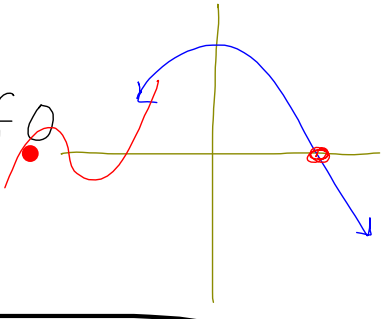
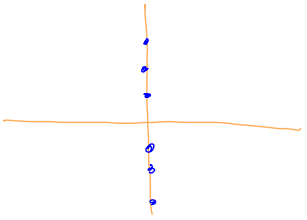
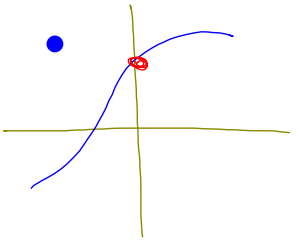


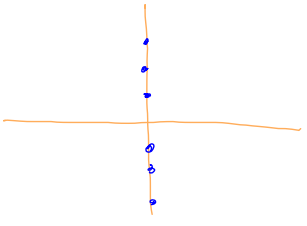
To find x-intercepts of functions, set them equal to zero and solve.



Points on the y-axis have x-coordinates of 0

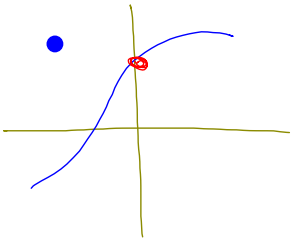
(0,)





Points on the y-axis have x-coordinates of 0

(0,)



To find y-intercepts, set x equal to zero.

In your Notes

will need a half piece of graph paper

$$y = 2\sqrt{9-x} - 4$$

1. Find the locations of key points ?

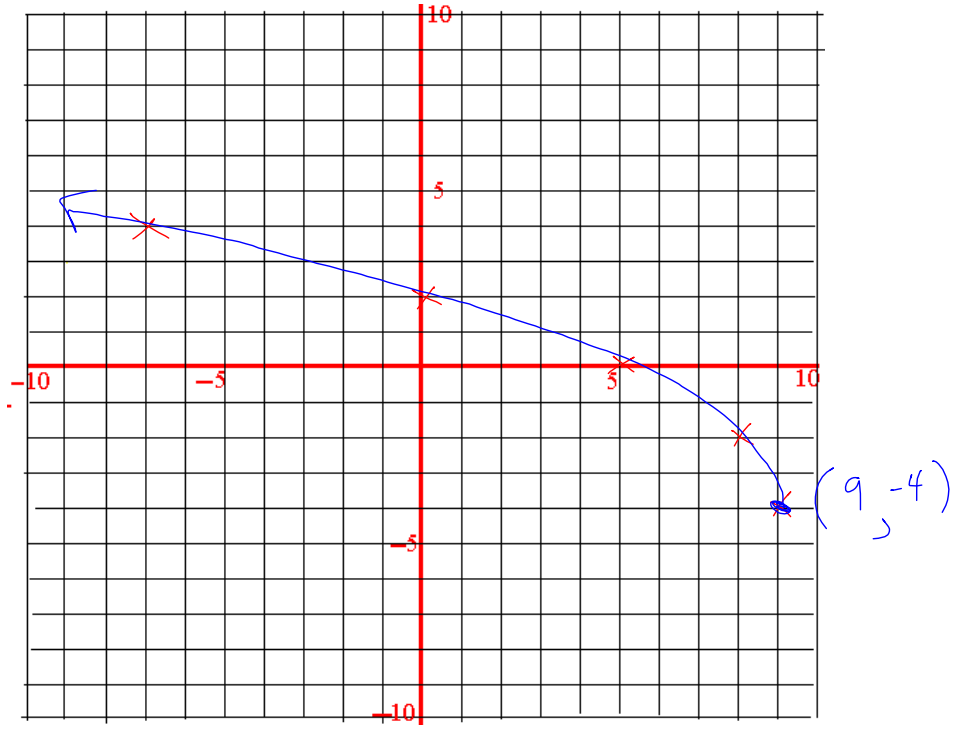
2. Find the domain and range ?

3. Identify the **y**-intercept *(exact if possible)*

4. Identify **x**-intercept(s), *exact if possible*

Make a Complete on Graph Paper

- Plot points accurately
- Scale axis appropriately
- Label key points
- Go by "ones"



1. Find the locations of key points ?

endpoint $(9, -4)$

2. Find the domain and range ?

domain: $-\infty < x \leq 9$

range: $-4 \leq y < \infty$

3 Identify the **y**-intercept *(exact if possible)* ?

Set $x=0$ $\quad y = 2\sqrt{9-0} - 4$

$= 2$ $\quad (0, 2)$

4. Identify **x**-intercept(s) , *exact if possible*

set $y=0$ $\quad 2\sqrt{9-x} - 4 = 0$

$(5, 0)$

$2\sqrt{9-x} = 4$

divide by 2

$\sqrt{9-x} = 2$

square

$9-x = 4$

$9 = 4 + x$

$-4 \quad -4$

$5 = x$

Homework → Analyze:

$y = 1 + 3\sqrt{x+4}$

1- 13bdf, 15-18, 21, 25

If your group is selected, everyone must contribute to the presentation in some way.

Including at least one statement starting with

"At first we were confused by..."

"This makes sense because..."

"We weren't sure about..., so we tried..."

"Something interesting that we noticed about our graph is..."