

## ① Homework Hotline

Let me know right away about any questions you would like to go over.

[ on day where you have more than a few questions, you should come in for help before school. ]

## ② Warm Up (Add to your Homework)

$$-\left(\frac{10}{12}x^3y^5\right)\left(\frac{6}{5}x^7y\right) =$$

## ② Warm Up (Add to your Homework)

$$\cancel{\frac{10}{12}}x^3y^5 \cdot \left(\frac{\cancel{6}}{5}x^7y\right) = -x^{10}y^6$$

now add one more  $\frac{2 \cancel{6} x^4 x^3}{3 \cancel{9} x^1} = \frac{2}{3}x^3$

$$\frac{2x^3}{3}$$

$$x^3 \cdot x^7 = x^4 \cdot x^7$$

$$\cancel{x^3} \cdot x^3 = x^6$$

As promised...

## Your reference sheet

- don't lose yours
- write your name on it.

period \_\_\_\_\_ first/last name \_\_\_\_\_ **Algebra 2** - Unit: \_\_\_\_\_

1. Before class starts, the following should be written on the top of your paper: **First/last name, Period, and the complete assignment.**
2. Once class starts, have your HW visible on top of your desk and the same with this recording sheet. Do not "finish" your assignment in class.
3. Using the solutions given to you in class you can edit/correct your homework but you must use ink in a color that clearly stands out from your main work.
4. Before the conclusion of HW checking, your score must be written in INK in two places:
  - a) In the upper right-hand corner on your actual HW.
  - b) and in column #4 below.

**\*\*\*Deductions:** Minus 5 points every time you do not have your recording sheet in class. Additional points could be deducted for not keeping up with the recording sheet daily.

Follow the guidelines on the front of your recording sheet

After going over today's HW  
be sure to use the rubric (on the back)  
to score your HW

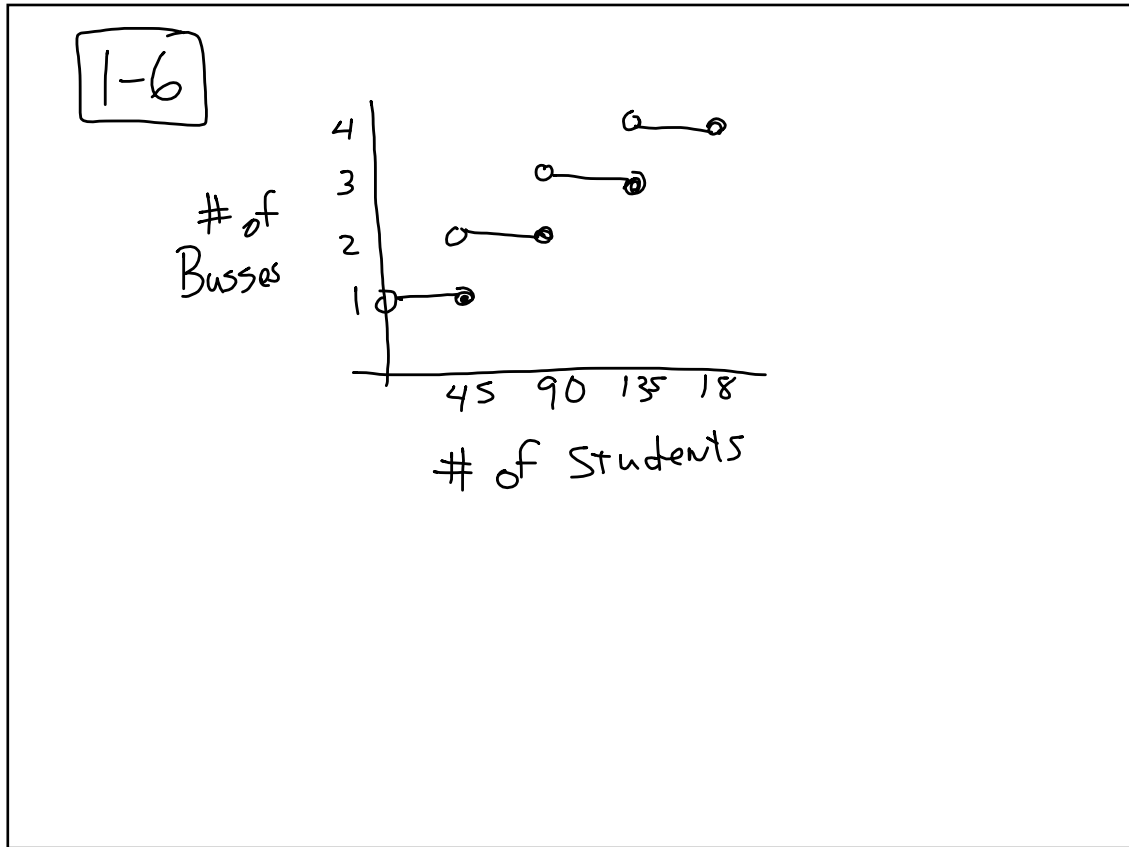
0 if you did not do it.

**\*\*\*Deductions:** Minus 5 points every time you do not have your recording sheet in class. Additional points could be deducted for not keeping up with the recording sheet daily.

| Day (Mon, Tu, etc) | Date Assigned | HW Description and include Chapter as well as problems<br>Reminder: If you are absent, you are required to check the class website for details before you return. | HW Score from 0 to 4 | Explain Special situations |
|--------------------|---------------|---|----------------------|----------------------------|
| T                  | 12/13         | Assig #1 (WS)   |                      |                            |
| W                  | 12/14         | [ ] ..... 4, 7ad, 8, 18, 21   |                      |                            |
|                    | /             |   |                      |                            |
|                    | /             |   |                      |                            |

should look like this so far





5

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

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

a.

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

1.  $y = x^2$
- 1-8. The graph for part (d) of problem 1-7 is different from the other three graphs. [Homework Help](#)
    1. Explain how the graph is different from the other three graphs.
    2. What in the equation of part (d) makes its graph different?
    3. What is the graph of part (d) called?

- 8)
1. When you graph an equation such as  $y = 3x - 5$ , which variable (the  $x$  or the  $y$ ) *depends* on the other? Which is not dependent? (That is, which is *independent*?) Explain.
  2. Which variable is *dependent*: temperature or time of day? Which variable is *independent*?
  3. Sketch a graph (with appropriately named axes) that shows the relationship between temperature outside and time of day.

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

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

(d) Solve  $g(x) = -7$        $-7 = 2x^2 - 5$   
 $+5$        $+5$

$$\begin{aligned} -2 &= 2x^2 \\ -1 &= x^2 \\ \sqrt{\quad} &= \sqrt{\quad} \\ &= x \end{aligned}$$

$$7d) y = x^2$$

| x  | y |
|----|---|
| -1 | 1 |
| -2 | 4 |
| 0  | 0 |
| 1  | 1 |

7acd

~~7acd~~





| ASSIGNMENT RUBRIC for Algebra 2 |   |
|---------------------------------|---|
| Score                           | Criteria  |
| 4                               | <p><b>ALL of these qualities are present:</b></p> <ul style="list-style-type: none"> <li>✓ Most items correct <u>or</u> attempted with fidelity and there is evidence of this.</li> <li>✓ All assigned problems are completed with fidelity.</li> <li>✓ Done on time [before class starts]</li> <li>✓ Neat and legible</li> </ul> |
| 3                               | <p><b>Has a moderate problem in <u>one</u> of these areas, or has very <u>slight</u> problems in several areas:</b></p> <ul style="list-style-type: none"> <li>✓ Number of errors or some items done without fidelity</li> <li>✓ Number of incomplete items</li> <li>✓ Done on time</li> <li>✓ Neatness/legibility</li> </ul>     |

**Fidelity** - Doing the problem as intended. It means more than just "attempting". This includes showing steps and work when appropriate. This includes using good terminology and notation.

The spirit of **Fidelity**: I want students who produce some errors to still score well if those errors are the result of misunderstanding or small mistakes, not because they ignored directions or rushed through the assignment.

|   |  |
|---|--|
| 2 | <p>Has a noticeable problem in <u>two</u> areas, or has a mix of problems in several areas. It is obvious that there was not a lot of time/effort put in.</p> <ul style="list-style-type: none"><li>✓ Number of errors or items done without fidelity</li><li>✓ Number of incomplete items</li><li>✓ Done on time</li><li>✓ Neatness/legibility</li></ul>                        |
| 1 | <p>Has a problem in <u>more than two</u> areas, or a problem in one area so significant, it reduces the quality of the whole task. It is <u>obvious</u> there was minimal effort</p> <ul style="list-style-type: none"><li>✓ Number of errors or items done without fidelity</li><li>✓ Number of incomplete items</li><li>✓ Done on time</li><li>✓ Neatness/legibility</li></ul> |

Remember to keep all completed  
HW assignments near your recording  
sheet and always have them  
in class.



**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.**

## Goals Today

- ① Use the **ZERO PRODUCT PROPERTY**
- ② Use Graphing Calculators to analyze functions and make "complete" Graphs.

Product of  
factors

$$3 \cdot 7 = 21$$

$$2 \cdot b = 10$$

do we know anything  
about the factors?

$$a \cdot b = 24$$

$$a \cdot b = 0$$

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

### 3 Examples

Solve each quadratic equation using the zero product property

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

ZPP

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

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

$$x = \frac{4}{3}$$

$$x = \frac{5}{2}$$

$$x = \frac{4}{3}$$

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

NO FACTORS, Yet

$$n(n+8) = 0$$

ZPP

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

$$-8 \quad -8$$

$$n = -8$$

$$(-8)^2$$

c)

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

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

ZPP

$$4x+1=0 \quad x-3=0$$

$$4x = -1$$

$$x = -\frac{1}{4} \quad x = 3$$

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

zero product  
property

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

$$-12x^2$$

$$12x \cdot -x$$

$$-12x \cdot x$$

$$-6x \cdot 2x$$

$$6x \cdot -2x$$

$$-4x \cdot 3x$$

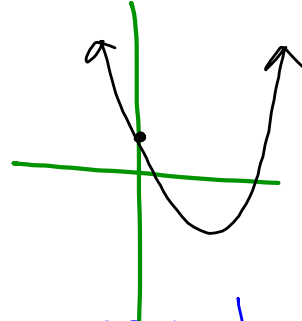
$$4x \cdot -3x$$

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:

Use graphing calculators  
to

- make "Complete Graphs"
- Analyze functions

- have one person get a GDC for each person in your group.
- the same person will return all of them.

FORMAT

Home Screen

$$5^2$$

$$7^3$$

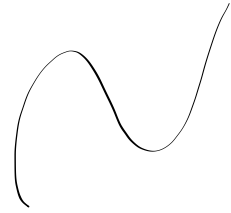
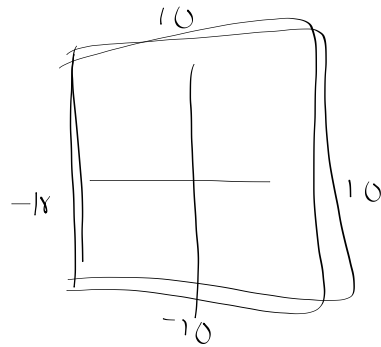
$$(8^3 - 7^2)^3$$

$$-(-3)^2 + 7(4) - 3$$

$$\sqrt{4900}$$

$$\sqrt[3]{125}$$





$Y =$

$$3x + 2$$
$$-2x^2 + 3x + 1$$

When finished

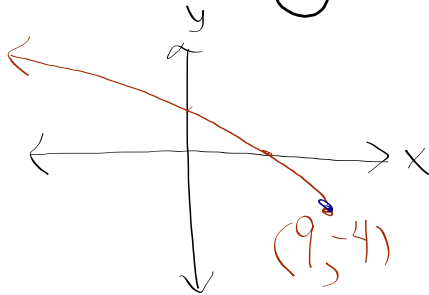
✓ clear  $Y =$

✓ turn off

In your Notes

will need a half piece of graph paper

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



1. What are the locations of key points ?

2. What is the domain ?

$$x \leq 9$$

$$\rightarrow -\infty < x \leq 9$$

$$\text{range: } -4 \leq y < \infty$$

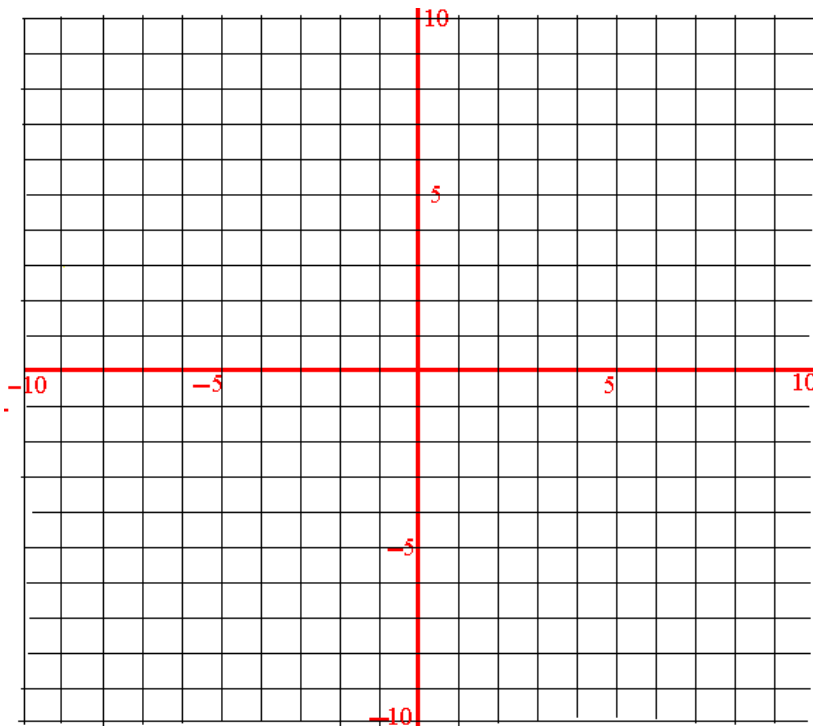
3. Is there a maximum or minimum y-value ?  
If so, what is it?

4. Can we identify 5 integer inputs and their outputs ? (five graphing friendly points)




### Make a Complete on Graph Paper

- Plot points accurately
- Scale axis appropriately
- Label key points



1- 13bdf, 15-17, 20,25

  
on #20  
find the domain  
and range

if you were absent yesterday,  
please see me about a short  
Pre-test we took yesterday

# Avoid the cycle of destruction.

**If you are struggling with the work, don't leave school that day unless you get help or come in early the next day.**