

Second Quarter Honors Algebra Project

CREATE A TEST - Chapters 4 and 5

What to do:

- Choose ONE partner to work with.
- Construct a comprehensive test that covers graphing linear functions. (Chapters 4 and 5)
- Typed - no more than 2 pages
- Three copies: 1 blank (problems only), 1 teacher key (with problems worked out), 1 test given to another group - then graded (using your key).
- Your test will be 100 points and will test topics listed below (in this order also) .
- Problems should be original (You may use your book, the internet, or old tests as examples - but not all problems should be copied or from one source.)

TOPIC	POINTS
1. Basics - plotting points/identify quadrants & axes	5
2. Horizontal and vertical lines	10
3. Graphing with the “table method”	10
4. Graphing with the “x and y-intercept method”	10
5. Calculating slope	10
a) Counting method	
b) Using the slope formula	
6. Graphing with the “slope-intercept form” (2 problems)	20
7. Writing and graphing equations in slope-intercept form (1 each)	20
a) Given the slope and intercept	
b) Given the slope and another point	
c) Given two points	
8. Linear application (word problem)	5
9. Linear Regression (Line of best-fit)	10

How/when to do it:

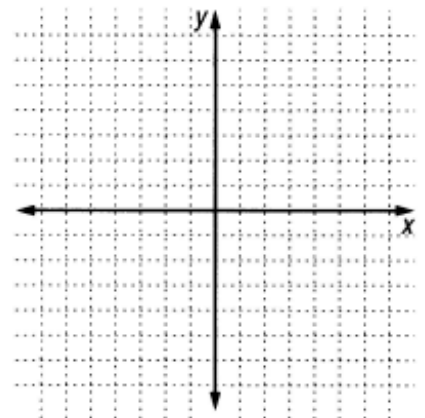
- Prepare the test with your partner. (8 days)
- Give the test to another group to take and grade (1 day: December 15)
- Hand in ALL parts: Due date: Tuesday, December 19
(One day late: Half credit. NO CREDIT for 2 or more days late.)

Where to find grids:

1. Find the grids online at this website:
<http://schools.rps205.com/guilford/Godtland/ClassINFO/Algebra12.htm>

Look under the menu on the left under “PROJECTS”. Download the grid either as a jpg or gif. (Whichever works best in your software.)

2. As an alternative you can cut and paste in grids if necessary. Photocopy of original must be made for both the student and key copies.



GRADING RUBRIC

Name(s) _____

EARNED POINTS	CATEGORY	POINTS 4	3	2	1
	Neatness and Attractiveness	Typed. Exceptionally well designed, neat, and attractive.	Typed. Neat and relatively attractive. Few errors.	Typed. Appearance is not neat. Many errors.	Typed, but messy, "thrown together" in a hurry.
	COPIES	Blank, Teacher key, Student copy all done correctly.	All done - but key contains some errors.	Missing one part or key has several errors.	Missing 2 parts or key contains numerous errors.
	TOPICS (TRIPLE Points)	All 9 topics included and correct. 12	One topic missing or contains errors. 9	Errors or missing 2 or 3 topics. 6	Many errors or missing 4 or more. 3
	Difficulty Level	Appropriate questions for all topics.	One topic has questions that are either too difficult or unclear.	More than one topic has inappropriate questions or unclear.	Several topics have poor questions or very unclear or too easy.
	Graphing Grids	All grids for graphing questions are provided and appropriately sized.	Missing 1 grid or 1 incorrect size.	Missing more than 1 grid or more than 1 has improper size required to do the problem.	Many missing grids or inappropriately sized for problems.
	Grade on TEST taken from another group.	90 - 100 Points Earned	80 - 89 Points Earned	70 - 79 Points Earned	Below 70 Points Earned



**TOTAL
POINTS
EARNED**

Grading Scale (32 Possible)

A- 29-32

B- 26-28

C- 22-25

D- 19-21

* This project will be counted as a full 100 point UNIT TEST

Second Quarter Honors Algebra Project
CREATE A TEST - Chapters 4 and 5

Group

Student(s)

1

2

3

4

5

6

7

8

9

10

11

12

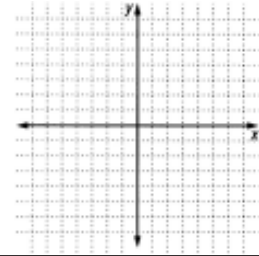
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14

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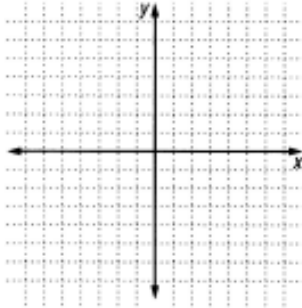
1. BASICS: Plot and LABEL each of the following.

- a) (-3, -2)
- b) (5, 2)
- c) Quadrant II
- d) Write the coordinates of a point on the x-axis. _____ (graph)
- e) Write the coordinates of the origin. _____ (graph)

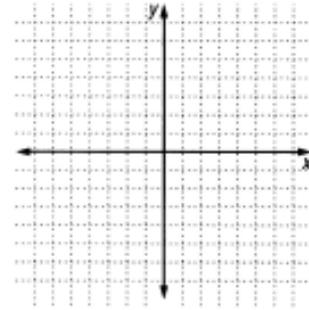


2. Graph.

a) $y = -4$

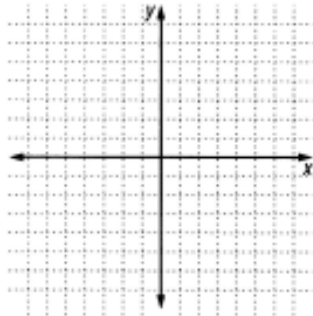


b) $x = 3$



3. Complete the table and graph. $y = 4x - 1$

x	y
-1	
0	
1	

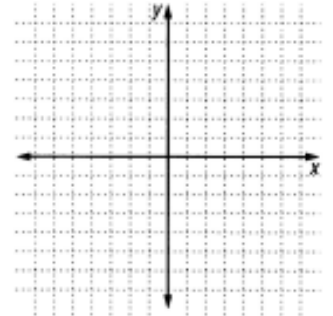


4. Find the x-intercept and y-intercept - then graph

$4x + 2y = 12$

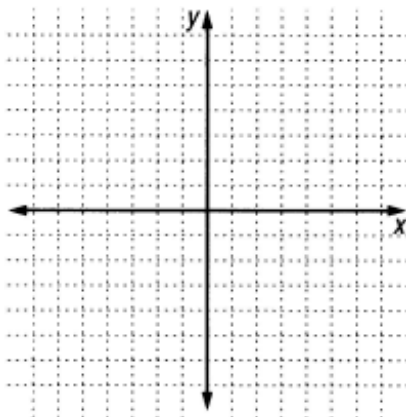
x-intercept: _____

y-intercept: _____



5. Calculating Slope

- a) Plot these points. Draw the line.
Then show the steps of the "counting method"
(1, 6) and (3, -4)



m =

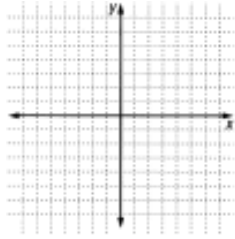
- b) Write the "slope formula".
Then use it to find the slope.
(-4, -3) and (2, 0)

6. Find the slope and y-intercept. Then graph each of the following;

a) $y = 2x - 5$

$m =$ _____

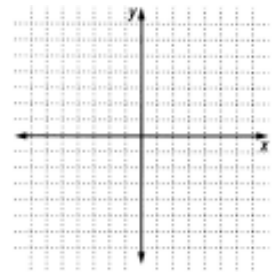
$b =$ _____



b) $x + 2y = 10$

$m =$ _____

$b =$ _____



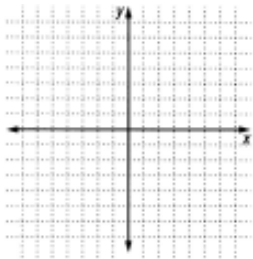
7. Write the equation and then graph. (Show necessary steps below the graphs.)

a) slope is -3.
y-intercept is 4.

$m =$ _____

$b =$ _____

equation: _____

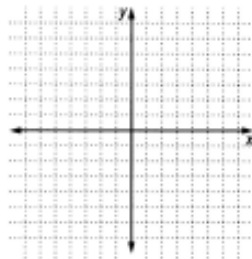


b) slope is 2
point is (2, -3)

$m =$ _____

$b =$ _____

equation: _____

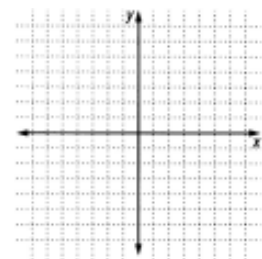


c) points are (2, 0) and (-2, 6)

$m =$ _____

$b =$ _____

equation: _____



8. Write an equation to show the total cost of renting a car if the charge is \$25 plus \$.45 per mile.

$m =$ _____

$b =$ _____

equation: _____

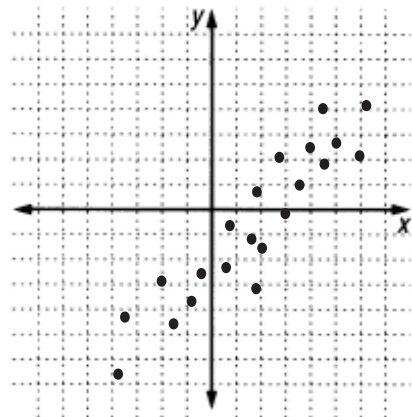
9. Linear regression. (Line of best-fit)

- a) What type of correlation do you see?
A) positive B) negative C) none
- b) Draw the line of best-fit.

c) Estimate the slope: _____

d) Estimate the y-intercept: _____

e) Write the equation: _____



Algebra - Group Evaluation

Name _____

Partner Name _____

Rate your group participation on a 0-10 point scale. (0 - worst to 10 - best) ***Be sure that you are honest.***

a) Efficient use of time (Group)	0	1	2	3	4	5	6	7	8	9	10
b) Writing of the test questions											
Myself	0	1	2	3	4	5	6	7	8	9	10
My Partner	0	1	2	3	4	5	6	7	8	9	10
c) Typing of the test											
Myself	0	1	2	3	4	5	6	7	8	9	10
My Partner	0	1	2	3	4	5	6	7	8	9	10
d) Completion of the key											
Myself	0	1	2	3	4	5	6	7	8	9	10
My Partner	0	1	2	3	4	5	6	7	8	9	10
e) Overall how well did you work together.	0	1	2	3	4	5	6	7	8	9	10

1. Things that I did to complete this project: _____

2. Things that my partner did to complete this project: _____

3. Explain one thing that your group did particularly well. _____

4. Explain one thing that your group could have done to make your project better. _____

Third Quarter Honors Algebra Project
CREATE A TEST - Chapters 4 and 5

GUIDELINES (What to do)

- This is a continuation of the Second Quarter Project. It will be graded by the revised rubric included on the back.
- Work with your partner to revise your comprehensive test that covers graphing linear functions. (Chapters 4 and 5)
- Typed - try to limit to 2 pages
- Two copies: 1 blank (problems only), 1 teacher key (with problems worked out including all steps required to solve)
- Your test must include the topics listed below.
- It must be numbered in this way and in this order. Also each TOPIC must be identified by "type" and also include appropriate directions.

TOPICS

1. Basics - plotting points/identify quadrants & axes
* Should be more than one question - use "letters" to identify questions.
2. Graphing horizontal and vertical lines (2 problems - 1 of each type)
3. Graphing with the "table method" (2 problems)
4. Graphing with the "x and y-intercept method" (2 problems)
5. Calculating slope (1 problem of each method)
 - a) Counting method
 - b) Using the slope formula
6. Graphing with the "slope-intercept form" (2 problems)
 - a) One easy problem (with it in the $y=mx+b$ form)
 - b) One where it has to be changed to get in $y=mx+b$ form
7. Writing and graphing equations in slope-intercept form (1 each)
 - a) Given the slope and intercept
 - b) Given the slope and another point
 - c) Given two points
8. Linear application (word problem)
9. Linear Regression (Line of best-fit)

How/when to do it:

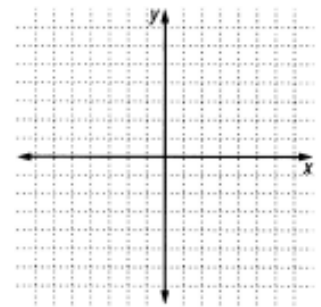
- Prepare (revise) the test with your partner. (11 days)
- Hand in ALL parts: Due date: Thursday, February 1, 2007

**DUE DATE MEANS IT MUST BE TURNED IN BY THE DUE DATE
EVEN WITH EXCUSED ABSENCE. IT MAY BE TURNED IN EARLY.**

(One day late: Half credit. NO CREDIT for 2 or more days late.)

Where to find grids:

1. Find the grids online at this website:
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	Guidelines	BOTH Test and Key done according to guidelines.	BOTH Test and Key done but 1 part contains some errors.	Test and Key are done but both parts contain errors.	Both Attempted but each part has numerous major errors .
	Key (Steps MUST be done in pencil)	Key is done correctly with all correct steps.	Key is done but it contains some minor errors.	Key is done but it contains multiple errors.	Key is incomplete or has numerous major errors .
	Difficulty Level	Appropriate questions for all topics.	One topic has questions that are either too difficult or unclear.	More than one topic has inappropriate questions or unclear.	Several topics have poor questions or very unclear or too easy.
	Graphing Grids	All grids for graphing questions are provided and appropriately sized.	Missing 1 grid or 1 incorrect size.	Missing more than 1 grid or more than 1 has improper size required to do the problem.	Many missing grids or inappropriately sized for problems.
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**TOTAL
POINTS
EARNED**

Grading Scale (32 Possible)

- A- 29-32
- B- 26-28
- C- 22-25
- D- 19-21

* This project will be counted as 68 points in the "Project/Test" category which is the remainder of the overall 100 point project.