

Future Geometry Student and Family,

I am very much looking forward to working with you next year!

As the school year comes to a close, I realize that you are looking forward to the sunny days and relaxation! However, it is also important to keep academic skills fresh for the next school year. Practicing math skills during the summer helps students make a smooth transition into Geometry. Therefore, attached are math assignments for you to complete before entering 8th grade.

These assignments are due the first day of school, August 21st.

For the attached worksheets, please show all of work, neatly, so that I can follow it. If you need extra space, please attach additional sheets of paper as necessary.

In addition, students must complete the following topics on IXL, with a smart score of at least 90.

These assignments can be found at www.ixl.com.

In the 8th grade math section:

- C.5 – add and subtract integers: word problems
- E.1 – reciprocals and multiplicative inverses
- F.3 – solve equations with variable exponents
- F.4 – exponents with negative bases
- F.12 – evaluate expressions using properties of exponents
- Y.2 – find the slope from two points
- Y.3 – find a missing coordinate using slope
- Z.11 – compare linear functions

In the Algebra I section:

- D.1 – convert between percent, fractions and decimals

If you have any questions, please do not hesitate to contact me, at laura_curtis@dpsk12.org.

Sincerely,

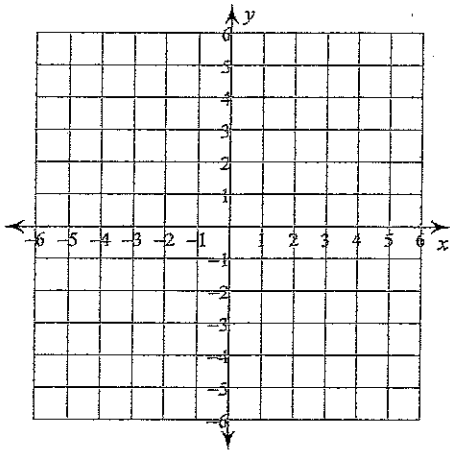
Laura Curtis

Assignment

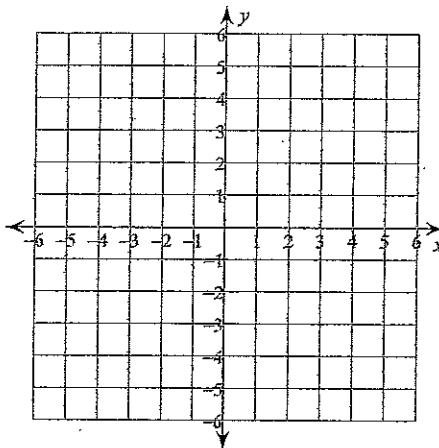
Date _____ Period _____

Sketch the graph of each line.

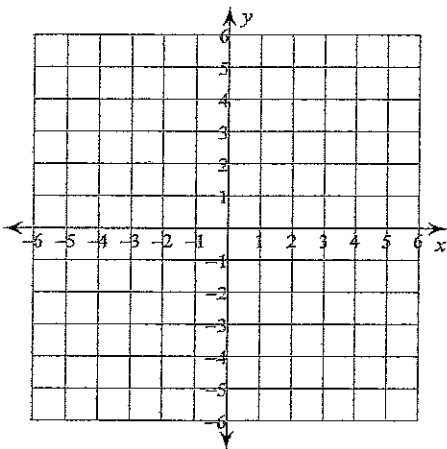
1) $x = 3$



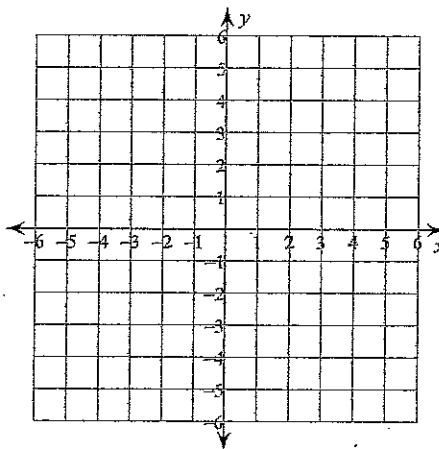
2) $y = \frac{5}{2}x + 1$



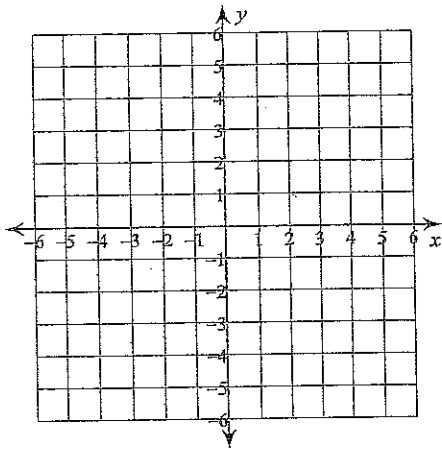
3) $0 = -3y - 9x$



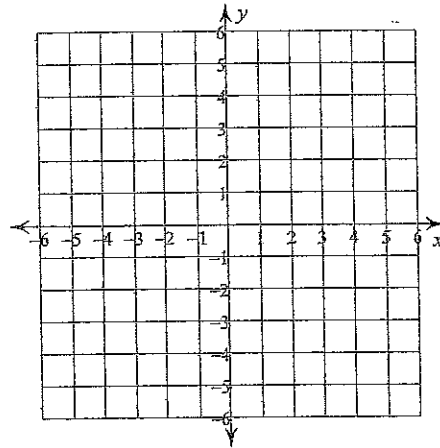
4) $0 = -y - 8x + 3$



5) $3x + 25 = -5y$



6) $-16 = x + 4y$



Find the slope of the line through each pair of points.

7) $(3, -5), (-20, -8)$

8) $(-1, 2), (-3, 14)$

Find the slope of each line.

9) $-6 = -3y + x$

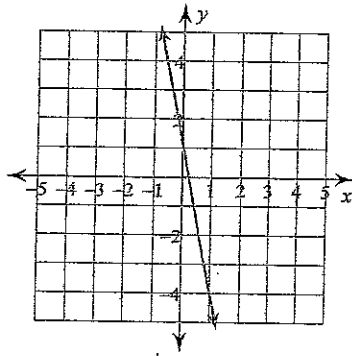
10) $1 + \frac{1}{3}y = -x$

11) $0 = 6 + 2x$

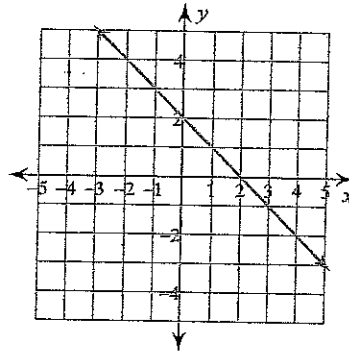
12) $2y + 4 + 3x = 0$

Write the slope-intercept form of the equation of each line.

13)



14)



15) $2x - y = -8$

16) $x - 2y = 6$

17) $y - 3 = -2(x - 1)$

18) $y - 2 = \frac{2}{3}(x + 3)$

Name: _____

Score: _____

Multi-Step Equations: Fractions

Sheet 1

Solve each equation.

1) $3\left(a - \frac{2}{3}\right) = \frac{3}{4}a + 2\frac{1}{4}$

2) $\frac{z}{2} - \frac{3}{5} = -\frac{2}{3}z + \frac{1}{6}$

3) $\frac{7}{4}x - 3 = 2 + \frac{9}{2}x$

4) $\frac{3c+8}{3} = \frac{1}{2} + \frac{c}{4}$

5) $\frac{1}{3} - \frac{2}{9}m = 15 + m$

6) $\frac{1}{2}(q+1) = \frac{4}{3} - q$

7) $\frac{1}{6}r + 2 = 4\frac{1}{9}r + \frac{8}{3}$

8) $\frac{2}{3} - \frac{3}{2}y + \frac{1}{3}y + 4 = 0$

Picking Apples

This problem gives you the chance to:

- work out costs from given rules

Anna goes to pick apples.
She sees two orchards next to each other, David's orchard and Pam's orchard.
The signs below are at the entrance to the orchards.

<p>DAVID'S APPLE ORCHARD Pick your own apples!</p> <p>First 10 pounds \$2 per pound</p> <p>Each additional pound \$1 per pound</p>	<p>PAM'S ORCHARD DELICIOUS APPLES</p> <p>\$10 entry fee</p> <p>First 10 pounds \$1.50 per pound</p> <p>Each additional pound \$0.75</p>
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Anna wants to pick 40 pounds of apples.

1. a. How much does this cost at David's orchard? _____

Show your calculations.

b. How much does it cost at Pam's orchard? _____

Show your calculations.

Chris has \$30 to spend.

2. a. How many pounds of apples will he get if he goes to David's orchard?
Explain how you figured it out.

- b. If Chris goes to Pam's orchard, how many pounds of apples will he get?
Explain how you figured it out.

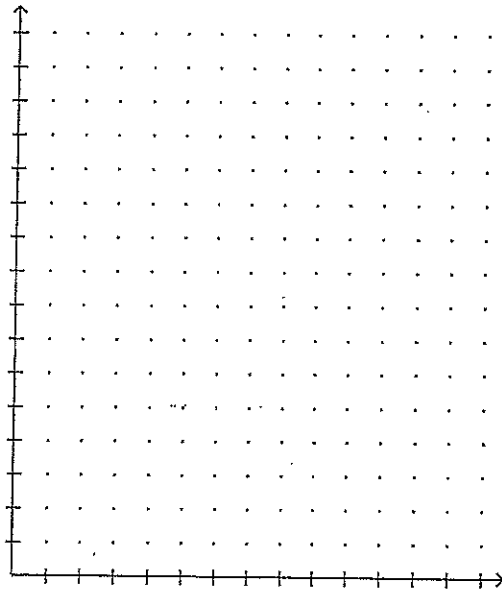
3. How many pounds of apples must Chris pick before Pam's orchard is cheaper than David's?

Show your work.

HOMEWORK Name: _____ Date: _____ Per: _____
Line of Best Fit Worksheet

1. The chart below describes the height of a mountain biker as he carefully descends an icy path on Mount Everest. Use the given data to create a scatter plot. Remember title, labels and scale.(5pts)

time	5	10	15	20	25	35	40
height	15,800	14,500	13,300	12,200	10,900	8,500	7,400



2. What type of correlation does the data have? Explain why the data would have this type of correlation. (1 pt correlation, 3 pts explanation)

3. Create a line of best fit that could be used to describe the mountain biker's height in feet, h , at a specific time in minutes, t . (4pts)

HOMEWORK Name: _____ Date: _____ Per: _____
Line of Best Fit Worksheet

4. After 30 minutes of riding the icy path, about how high on the mountain is the biker?
(3pts)

5. If the biker continues to follow this pattern, what will be his altitude after 50 minutes?
(3pts)

6. How much time has passed, when the biker reaches the height of 11,000 feet?
(3pts)

7. How much time has passed, when the biker reaches sea level at 0 feet? (3pts)

8. Explain the meaning of the rate of change for this situation (3pts)

9. Explain the meaning of the y-intercept for this situation (3pts)

Dream Job Salary Algebra 1 Performance Task

Instructions:

The following task contains 4 parts. We are interested in all of your mathematical thinking so please be sure to show your work and read the situation carefully. If at any time you get stuck feel free to try another part of the task. Relax. Be creative. Good Luck.

This is an imaginary story where mathematics is needed to understand the events.

The Situation: You are offered a 30-day trial period at your dream job. However, the owner of the company is a little unusual so the pay options are non-traditional. They offer you three different pay options for the 30 days.

Option 1: \$60,000 a day

Option 2: You make one penny the first day, two pennies the second day, four pennies the third day, eight pennies the fourth day, etc.

Option 3: On your first day of work, you get \$1. On your second day of work, you get \$4. On your third day of work, you get \$9. On your fourth day of work, you get \$16. It continues this way for 30 days and then once you've completed the 30 days you receive a completion bonus of \$500,000.



1.) Decide which payment option you would like to take (which earns you the most money?).

In supporting your decision you must use **at least two representations** (tables, graphs, and/or equations) for each option and **explain** your decision. (Remember that this is about total pay after 30 days.)

A-CED.2
F-LE.1
F-LE.3
F-IF.4

Problem Solving / Strategizing
Reasoning & Proof
Communication



2.) Your unusual boss decided to offer you a fourth option to even complicate your decision.

Your payment would be described by the function $P(x) = 95,000x + 200,000$ with x representing days you work and P representing dollars you earn. Explain the meaning of the function based on this situation and then decide if you would take this option over the other three choices. **Use a graph to support your decision.**

A-REI.3
F-LE.1
F-IF.4

Problem Solving / Strategizing
Reasoning & Proof
Communication



3) You decide to work until you make \$1.5 million (\$1,500,000) in the shortest amount of time. Using the four different plans you have been offered which option would you now chose? How does this affect the option you have chosen? Do you want to change your choice? Support your decision using at least two different representations. (Remember this is about total pay and you can use any of the four options.)

A-REI.3
F-LE.1
F-IF.4

Problem Solving / Strategizing
Reasoning & Proof
Communication



4) You have now thought about four functions. Please use your experience from your previous math classes and this task to compare these functions.

How are they similar? How are they different? Make sure you discuss the different ways they model growth, the different ways they can be represented and the key features of each function.

F-LE.1
F-LE.3
F-IF.4

Reasoning & Proof
Communication