

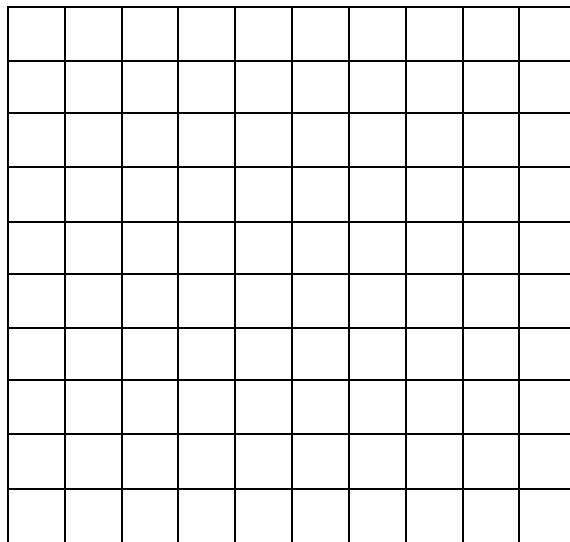
Saving Money

Everyday on her way home from school, Jen uses \$1 to buy a bag of chips. The chips cost \$0.75, and she saves the remaining quarter in her change jar.

- a. Jen buys 5 bags of chips per week. At this rate, how long will it take her to save \$10.00?

- b. Write an equation to show how much money, y , Jen will save after any number of weeks, x .

- c. Create a graph to represent this relationship.



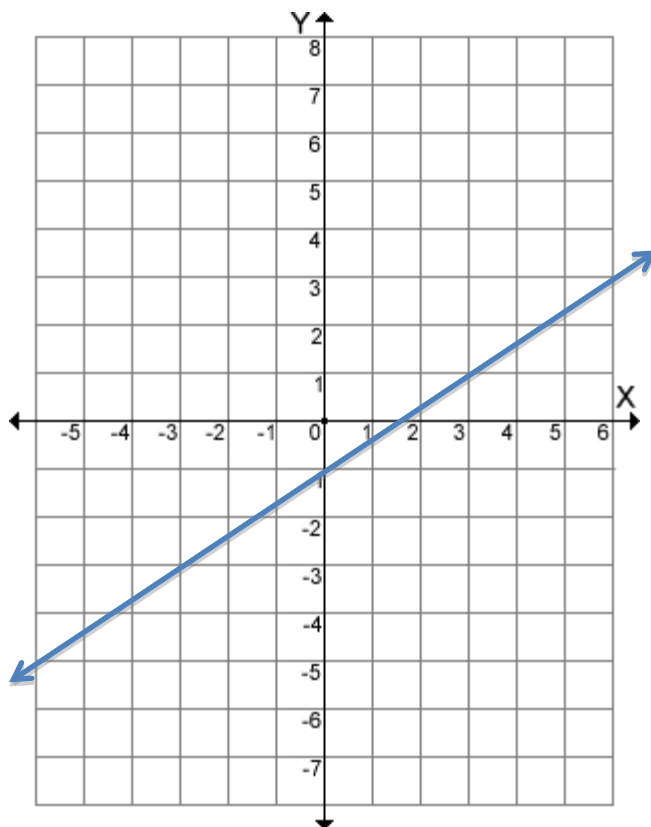
Mark is also trying to save money. He already has \$3.00 saved and puts \$1.00 per week away in his piggy bank. This can be represented by the equation $y = x + 3$.

- d. Will Jen or Mark save \$20.00 first? Justify your reasoning.

- e. Imagine you have made a graph to represent the money Mark has saved. Explain why Mark's line does not start at the origin and Jen's line does start at the origin.

Similar Triangles

Brandon and Madison use different triangles to determine the slope of the line shown below.



Brandon: Brandon started at $(0, -1)$ and drew a right triangle going up 2 units and right 3 units.

Madison: Madison started at $(-3, -3)$ and drew a right triangle going up 6 units and right 9 units.

a. Draw and label both triangles on the graph above.

b. Describe how the two triangles are related.

- c. Find the slope of the line using Brandon's triangle and Madison's triangle.

Show your work.

Brandon's slope: _____

Madison's slope: _____

- d. Justify how the triangles relate to the slope of the line. Why can you find the slope using any two points on the line?

Name: _____ Class: _____ Date: _____

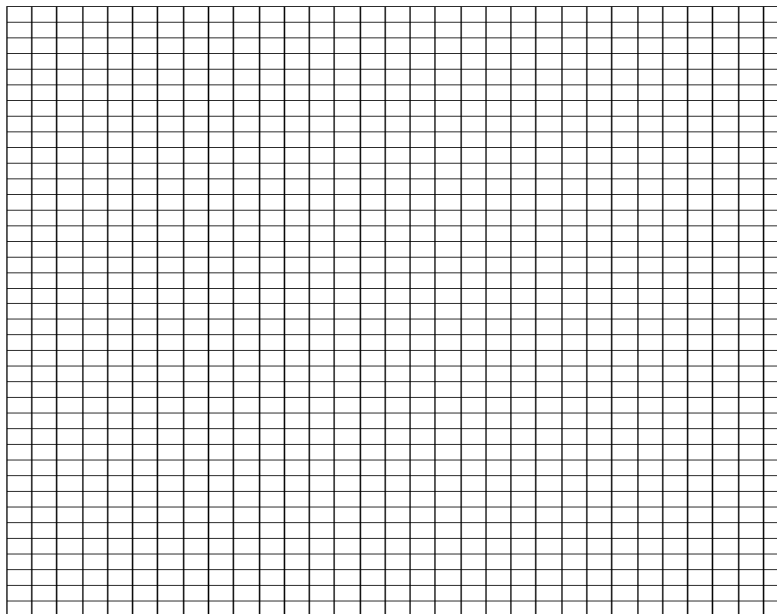
Talk and Text Plans

A cell phone company offers two talk and text plans. The company charges a monthly service fee of \$20 for either plan the customer chooses:

Customers that choose *Talk and Text Plan A* are charged five cents a minute and twenty dollars for 250 texts.

Customers that choose *Talk and Text Plan B* are charged ten cents a minute (first 100 minutes free) and fifteen dollars for 200 texts. The equation: $c = .10(m - 100) + 15 + 20$ can be used to represent how much a customer would spend monthly for the minutes used.

- Express Plan A as an equation where c equals the cost and m equals the minutes used.
- For how many minutes will both plans share the same cost? Show your work algebraically.
- Graph each Talk and Text plan to determine when both plans cost the same. Write the solution and explain how the graph results match your algebraic solution.



- If a customer has \$75 to spend each month, which plan should the customer choose and why? Use your work to justify your answer.

Job Advertisements

When looking through the classified section of your Sunday paper, you came across two job postings of interest to you:

Sales Person Needed

Foot Warehouse

Pay rate: \$160 per week and 25% commission

Knowledgeable in Computers?

Computers for You

Pay rate: 15% commission + \$220 weekly

- Write a system of equations that expresses each posting as an equation that relates the money earned, e , and the sales made, s .
- Solve the system by graphing. How much would you need to sell at either job to earn the same amount in one week?
- At which job you would earn more if you estimate your sales to be \$500? Use your graph results to justify your answer.