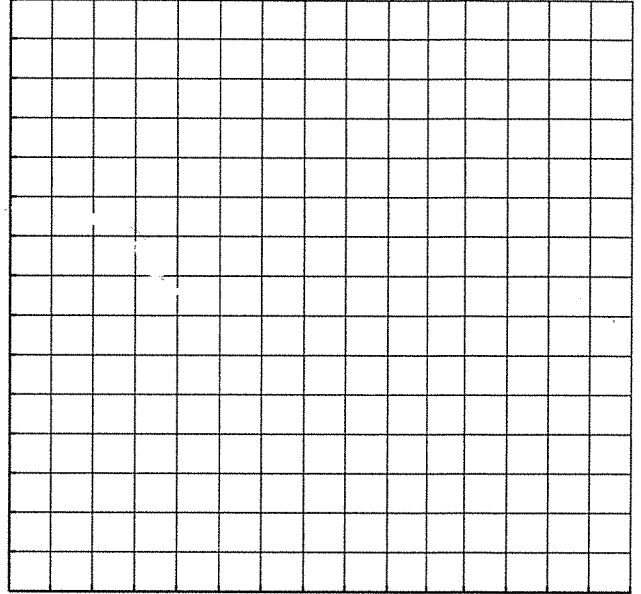


**Linear Function Word Problems**

1. The phone company charges a flat rate of \$25 per month. In addition, they charge \$0.05 for each minute of service. (Think wisely about your x-values.)

A. Make a table and graph your points.  
Be sure to lable the sides.

Minutes	Cost \$



b. Write a linear equation for the monthly charge based upon the number of minutes of service each month.

c. Interpret the slope. What does the slope mean in relationship to the situation?

d. Interpret the y-intercept. What does the y-intercept mean in relationship to the situation?

e. What will be the charge for 100 minutes of service? Use the equation and substitute the values to show your work.

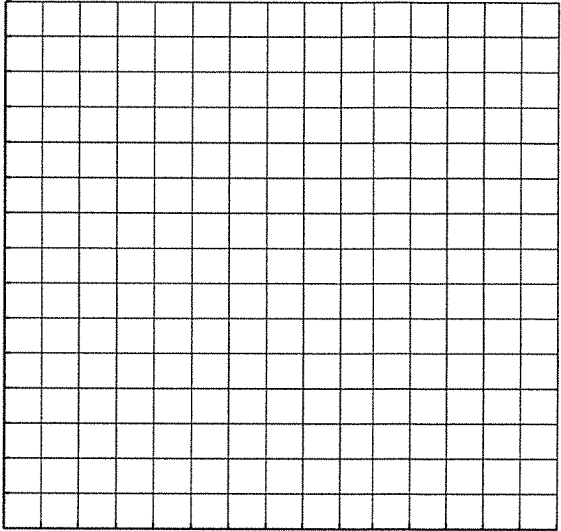
f. You can afford a \$55 phone bill each month. How long can you afford to talk on the phone each month? Use the equation and substitute the values to show your work.



2. Suppose you own a car that is 40 months old. From an automobile dealer's "Blue Book" you find that its trade-in value is \$3200. From an old Blue Book you find that its trade-in value 10 months ago was \$4700.

a. Make a chart.

Months old	Trade in Value



b. Write a function expressing trade-in value as a function of the cars age in months.

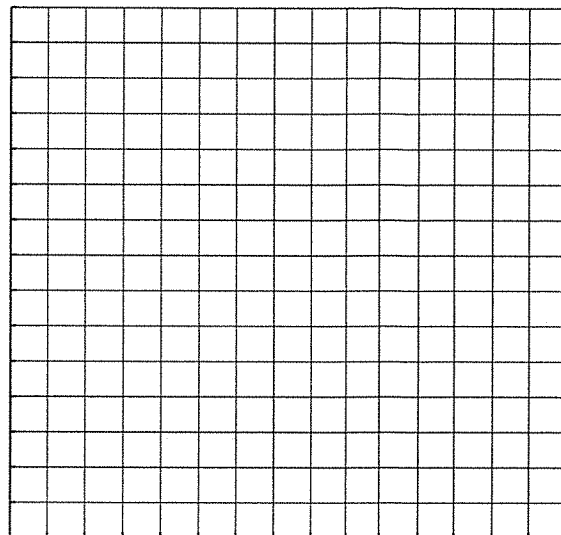
c. You plan to get rid of the car when its trade-in value drops to \$1000. How much longer should you keep the car? Show work to support your answer.

d. What does the slope of your function represent in the real world? Why is the slope negative?

When do you predict that car will be worthless? How do you know this?

3. Handy Andy sells 23 oz. cans of green beans for 63 cents and 15 oz. cans for 45 cents. Assume the price varies linearly with the number of ounces.

○ Make a chart and graph. Label your charts and graph.

b. Write a function to express the price in terms of the number of ounces in a can.

○ c. At the store a 52 oz. can sells for \$1.39. According to your model is it over-priced or under-priced? Explain.

d. Suppose an “individual serving” can of green beans costs \$0.21. About how many ounces of green beans would you expect it to contain? Use your graph or use an equation.

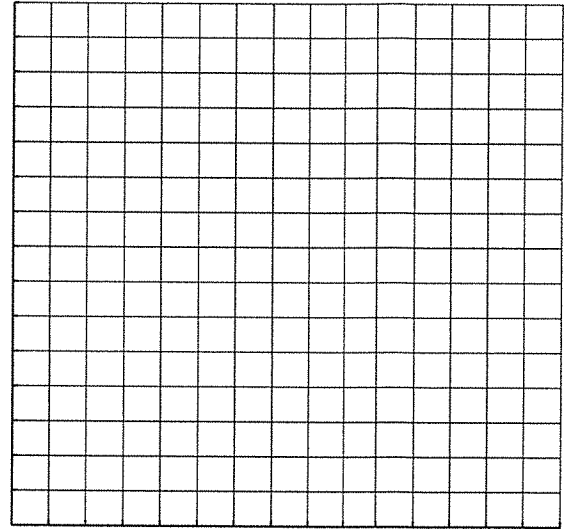
e. What is the slope in your model? What does it represent in the real world?



4. Bang-up Motors will rent-a-wreck for \$25 plus \$0.15 per mile traveled.

a. Make a chart and graph. Choose your x values carefully.

Miles	Total Cost



b. Write a function expressing rental cost as a function of the miles traveled.

c. Find the cost of renting a car to travel 1200 miles. Use your equation and substitute the values to show your work.

d. What does the slope of your function represent in the real world?

e. What does the y-intercept represent in the real world?

f. How far would you have driven if your bill was \$61? Use your equation to show your work.