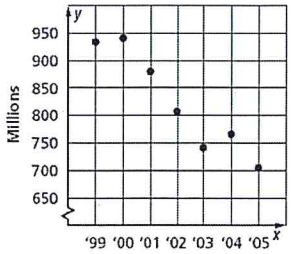
Name _____ Hour_____ Date_____

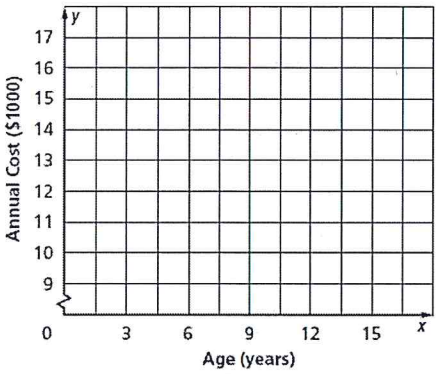
Scatter Plots and Lines of Best Fit Worksheet

1. **MUSIC** The scatter plot shows the number of CDs (in millions) that were sold from 1999 to 2005. If the trend continued, about how many CDs were sold in 2006?



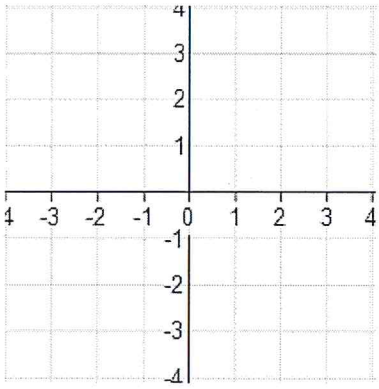
2. **FAMILY** The table below shows the predicted annual cost for a middle income family to raise a child from birth until adulthood. Draw a scatter plot and describe what relationship exists within the data.

Cost of Raising a Child Born in 2003					
Child's Age	3	6	9	12	15
Annual Cost ($)	10,700	11,700	12,600	15,000	16,700



3. Make a scatter plot of the data in the table. Draw a line of best fit. What is the equation of the line of best fit?

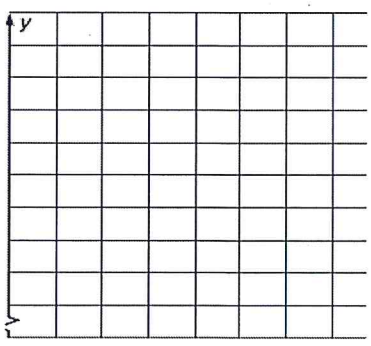
X	-2	-2	-1	0	1	1	1	2	2	3
y	2	3	2	1	0	1	-1	-1	-2	-2



4. **EDUCATION** The table at the right gives the number of hours spent studying for a science exam and the final exam grade.

Study Hours	3	2	5	1	0	4	3
Grade	84	77	92	70	60	90	75

   a. Draw a scatter plot of the data and draw in the line of best fit.



   b. What is the equation for the line of best fit?

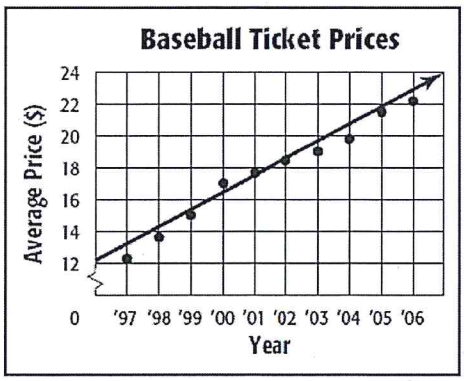
   c. Predict the grade for a student who studied for 6 hours.

   d. Could this line go on forever? Why or why not?

5. **BASEBALL** The scatter plot shows the average price of a major-league baseball ticket from 1997 to 2006.

   a. Use the points (2001, 17.60) and (2002, 18.75) to write the slope-intercept form of equation for the line of fit shown in the scatter plot.

   b. Use your equation to tell the price of a ticket in 2009. Is this extrapolation or interpolation?



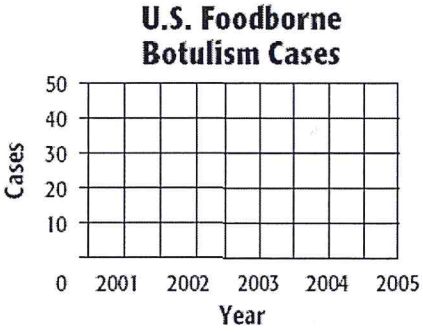
Source: Team Marketing Report, Chicago

6. **DISEASE** The table shows the number of cases of Foodborne Botulism in the United States for the years 2001 to 2005.

   a. Draw a scatter plot and determine, what relationship, if any, exists in the data.

   b. Draw a line of fit for the scatter plot, and write the slope-intercept form of an equation for the line of fit.

U.S. Foodborne Botulism Cases					
Year	2001	2002	2003	2004	2005
Cases	39	28	20	16	18



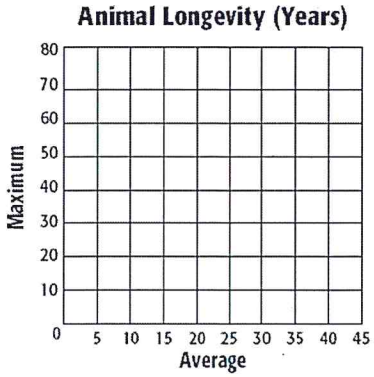
7. **ZOOS** The table shows the average and maximum longevity of various animals in captivity.

   a. Draw a scatter plot and determine, what relationship, if any, exists in the data.

   b. Draw a line of fit for the scatter plot, and write the slope-intercept form of an equation for the line of fit.

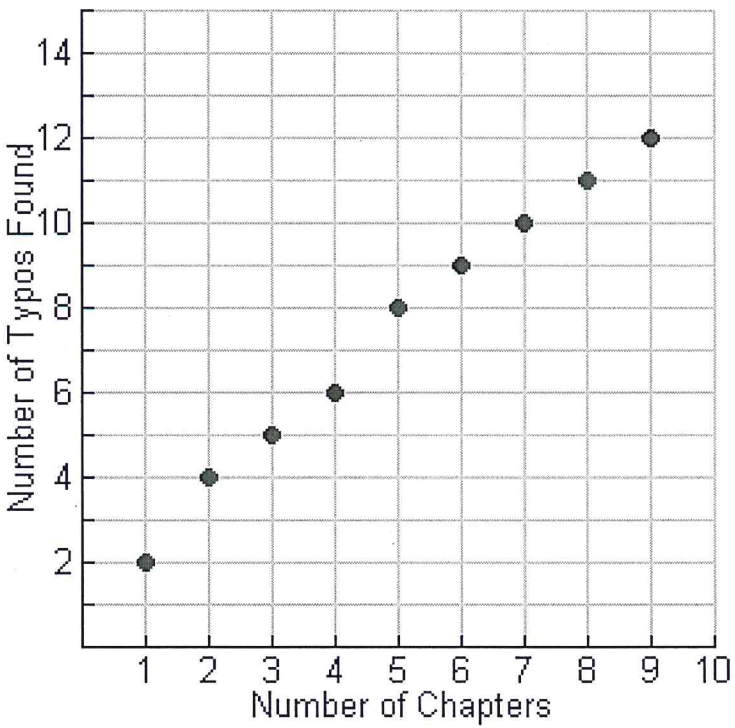
   c. Predict the maximum longevity for an animal with an average longevity of 33 years. Is this an example of Extrapolation or Interpolation?

Longevity (years)								
Avg.	12	25	15	8	35	40	41	20
Max.	47	50	40	20	70	77	61	54



Line of Best Fit Worksheet

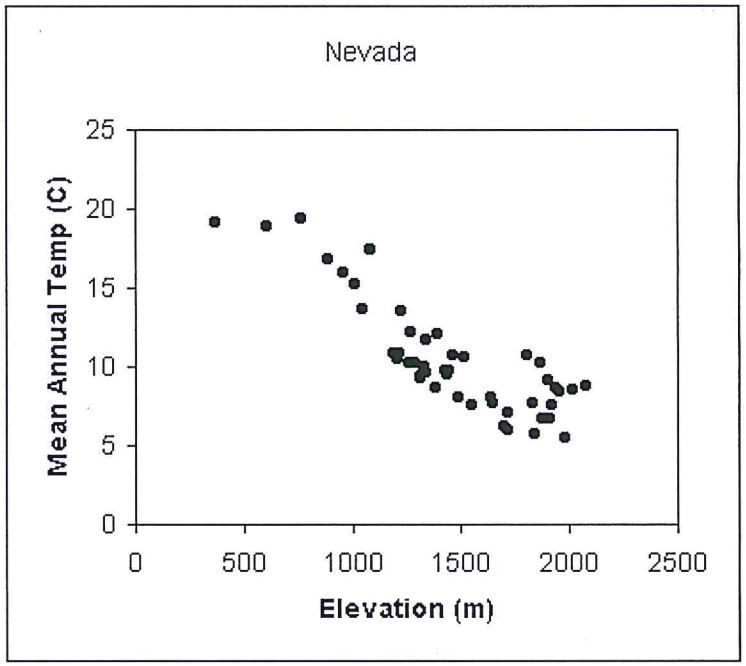
1. To the right is a scatterplot of data comparing the number of chapters in a textbook to the number of typos found within the book. Answer the following questions based on the graph.
   a. Draw a line of best fit to model the data.
   b. Write an equation for your line of best fit.



   c. What does the slope of the line mean in context to this situation?

   d. What is the y-intercept of the graph? _____
   e. What does the y-intercept mean in the context of this situation?

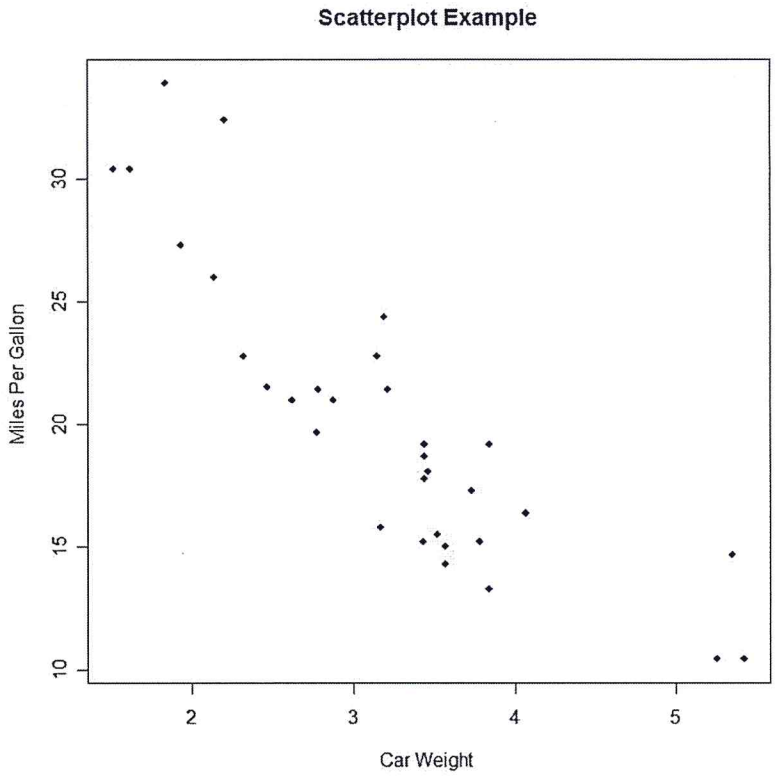
2. To the right is a scatterplot of data comparing the elevation in meters to the mean annual temperature in degrees Celsius in Nevada. Answer the following questions based on the graph.
   a. Draw a line of best fit to model the data.
   b. Write an equation for your line of best fit.



   c. What does the slope of the line mean in context to this situation?

   d. What is the y-intercept of the graph? _____
   e. What does the y-intercept mean in the context of this situation?

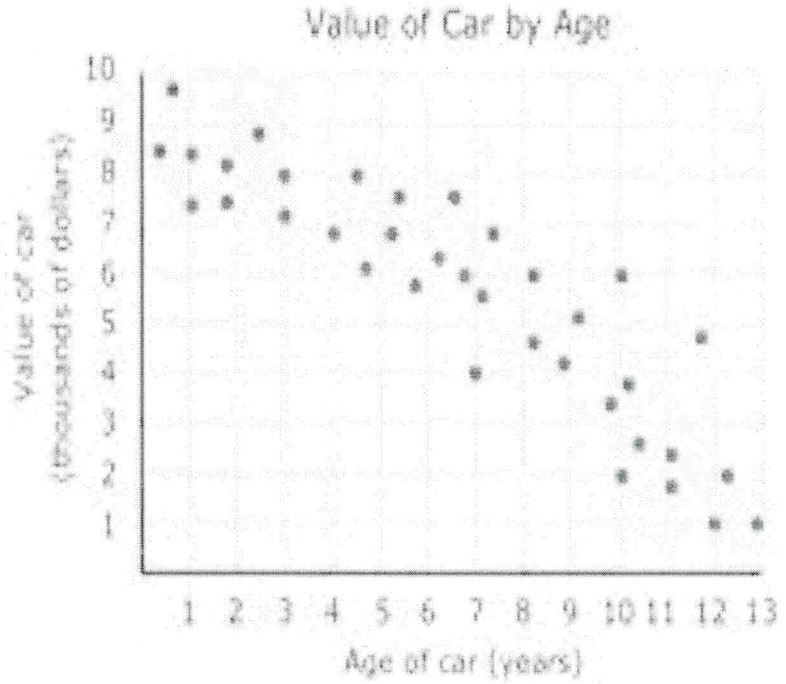
3. To the right is a scatterplot of data comparing the weight of a car in tons to the miles per gallon that the car receives. Answer the following questions based on the graph.
   a. Draw a line of best fit to model the data.
   b. Write an equation for your line of best fit.



   c. What does the slope of the line mean in context to this situation?

   d. What is the y-intercept of the graph? _____
   e. What does the y-intercept mean in the context of this situation?

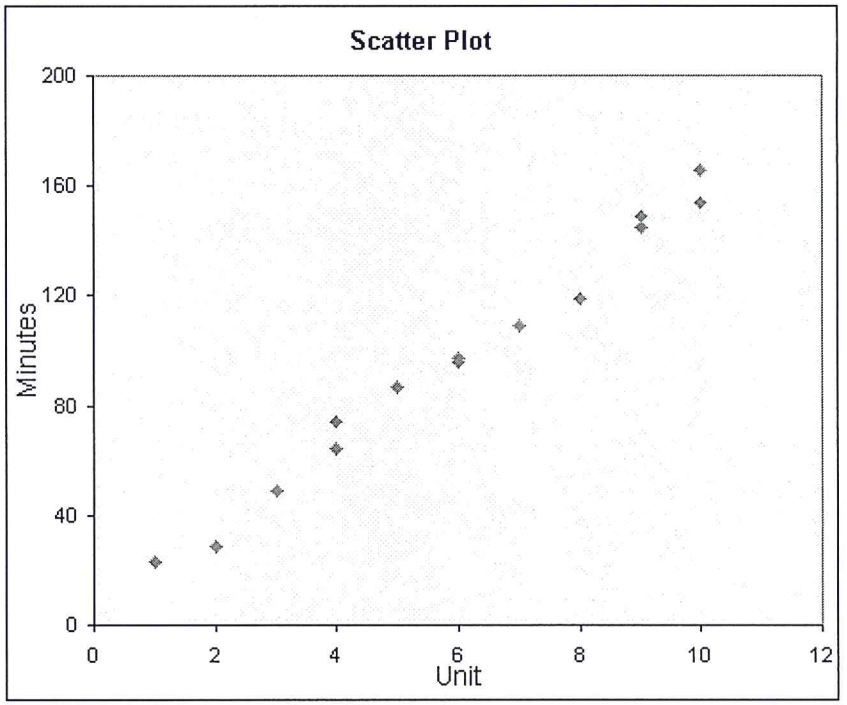
4. To the right is a scatterplot of data comparing the age of a car in years to the value of the car in thousands. Answer the following questions based on the graph.
   a. Draw a line of best fit to model the data.
   b. Write an equation for your line of best fit.



   c. What does the slope of the line mean in context to this situation?

   d. What is the y-intercept of the graph? _____
   e. What does the y-intercept mean in the context of this situation?

5. To the right is a scatterplot of data comparing the distance walked by a group of students and the time in minutes it takes them to walk the given distance. Answer the following questions based on the graph.
   a. Draw a line of best fit to model the data.
   b. Write an equation for your line of best fit.



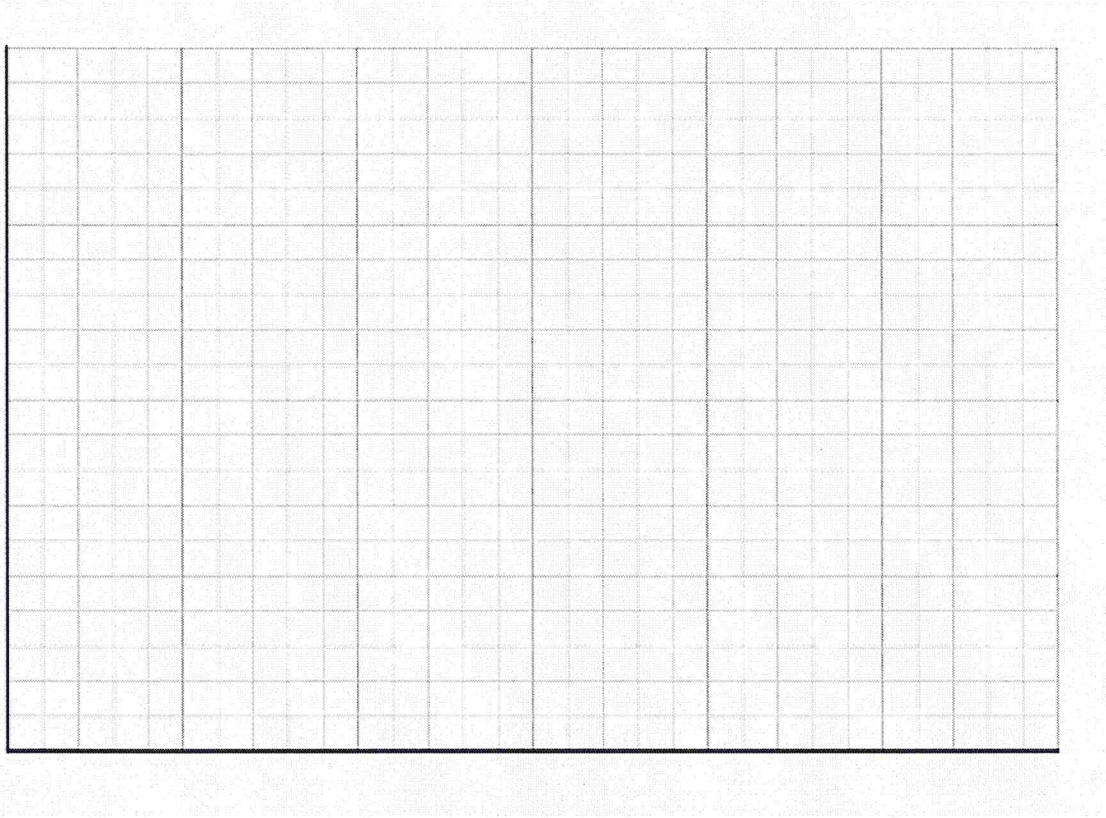
   c. What does the slope of the line mean in context to this situation?

   d. What is the y-intercept of the graph? _____
   e. What does the y-intercept mean in the context of this situation?

6. A data table is given below. Graph the data and answer the following questions.
   - Be sure to label each axis and the appropriate scale.

LOWEST-PRICED AIRFARES FROM BALTIMORE

Destination	Distance (in miles)	Airfare
Atlanta	576	$164
Boston	370	$124
Chicago	612	$143
Dallas	1,216	$260
Detroit	409	$161
Denver	1,502	$216
Miami	946	$180
New York	189	$108
St. Louis	737	$180



a.) Draw a line of best fit for the data.

b.) Write an equation of the line for your line of best fit.

_____

c.) What does the slope mean in context to this situation?

d.) What does the y-intercept mean in context to this situation?