Name _____ Date_____

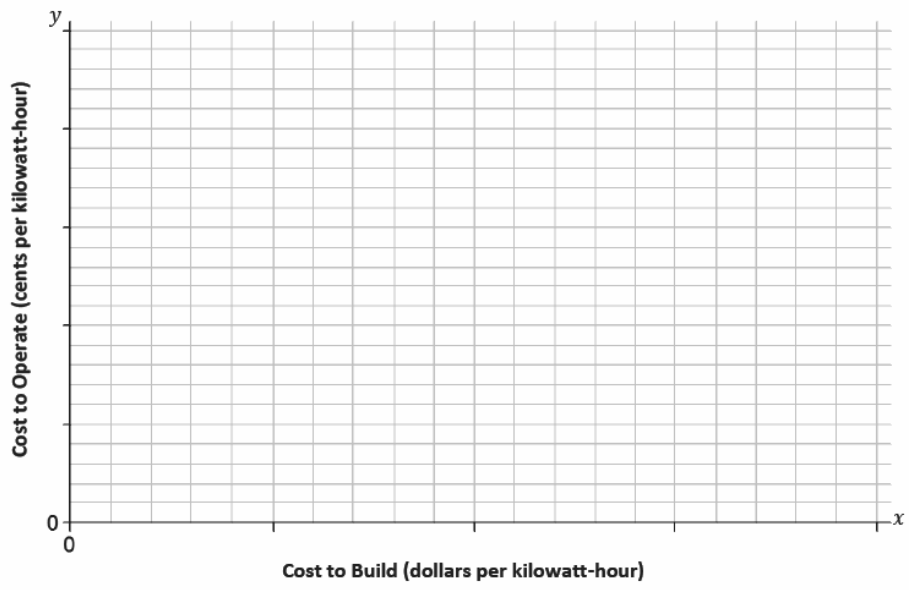
Lesson 6: Scatter Plots

Exit Ticket

Energy is measured in kilowatt-hours. The table below shows the cost of building a facility to produce energy and the ongoing cost of operating the facility for five different types of energy.

Type of Energy	Cost to Operate (cents per kilowatt-hour)	Cost to Build (dollars per kilowatt-hour)
Hydroelectric	0.4	2,200
Wind	1.0	1,900
Nuclear	2.0	3,500
Coal	2.2	2,500
Natural Gas	4.8	1,000

1. Construct a scatter plot of the cost to build the facility in dollars per kilowatt-hour (x) and the cost to operate the facility in cents per kilowatt-hour (y). Use the grid below, and be sure to add an appropriate scale to the axes.



2. Do you think that there is a statistical relationship between building cost and operating cost? If so, describe the nature of the relationship.

3. Based on the scatter plot, can you conclude that decreased building cost is the cause of increased operating cost? Explain.

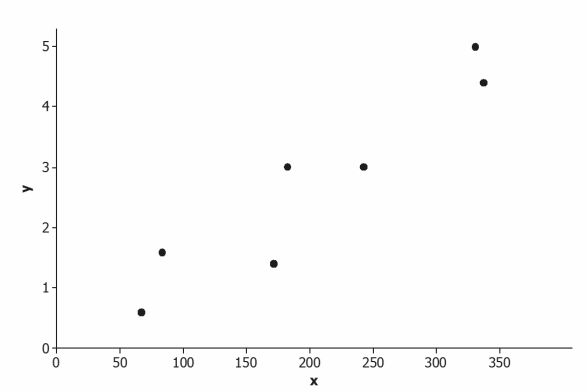
Name _____ Date_____

Lesson 7: Patterns in Scatter Plots

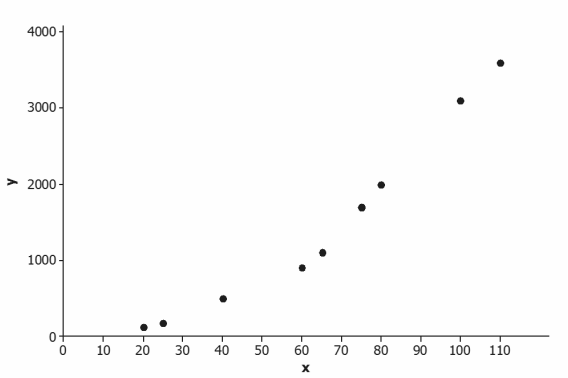
Exit Ticket

1. Which of the following scatter plots shows a negative linear relationship? Explain how you know.

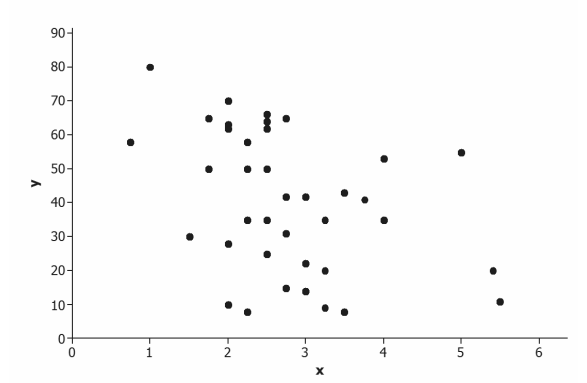
Scatter Plot 1



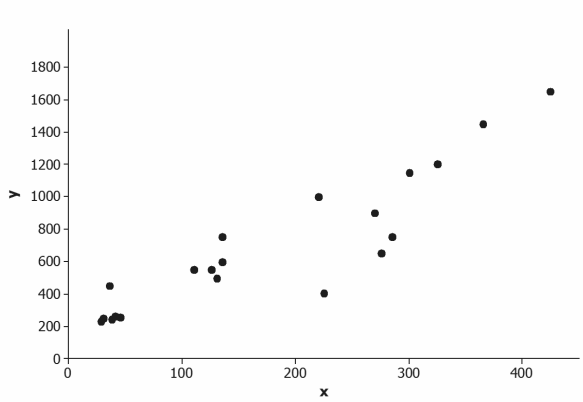
Scatter Plot 2



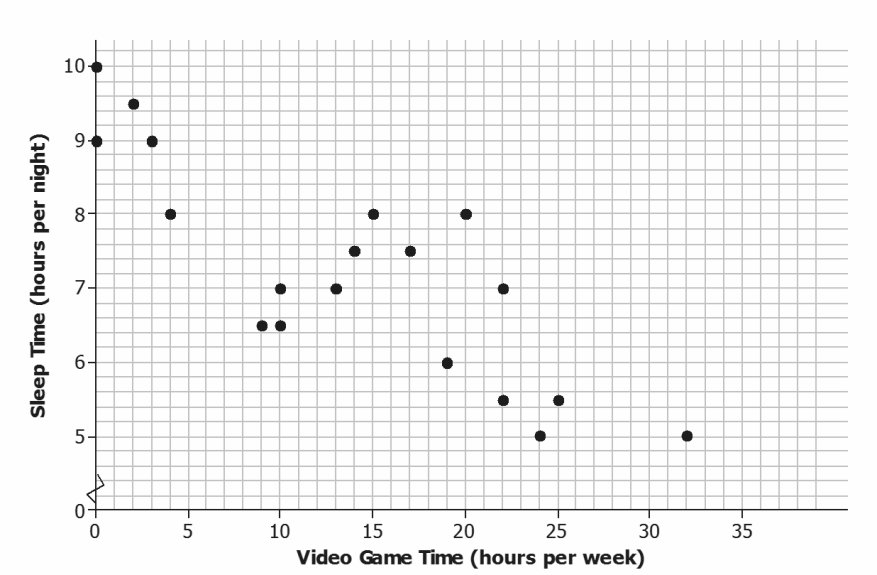
Scatter Plot 3



Scatter Plot 4



2. The scatter plot below was constructed using data from eighth-grade students on number of hours playing video games per week (x) and number of hours of sleep per night (y). Write a few sentences describing the relationship between sleep time and time spent playing video games for these students. Are there any noticeable clusters or outliers?



3. In a scatter plot, if the values of y tend to increase as the value of x increases, would you say that there is a positive relationship or a negative relationship between x and y? Explain your answer.

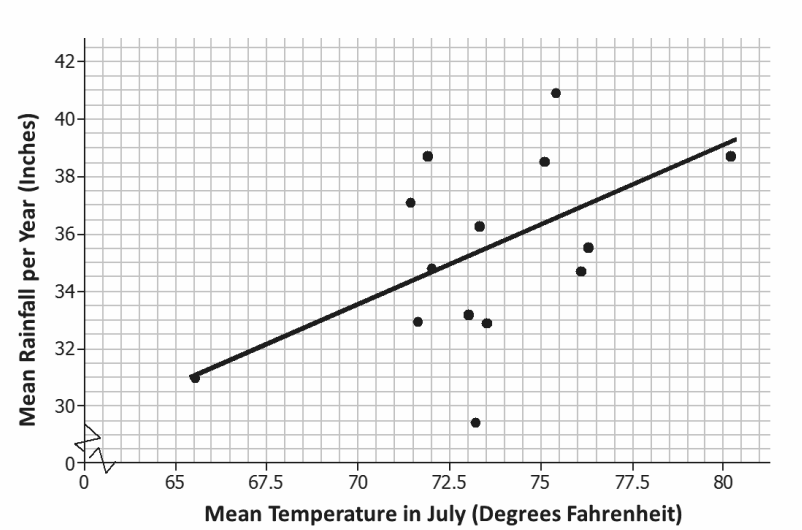
Name _____ Date_____

Lesson 8: Informally Fitting a Line

Exit Ticket

The plot below is a scatter plot of mean temperature in July and mean inches of rain per year for a sample of midwestern cities. A line is drawn to fit the data.

July Temperatures and Rainfall in Selected Midwestern Cities



Data Source: http://countrystudies.us/united-states/weather/

1. Choose a point in the scatter plot, and explain what it represents.

2. Use the line provided to predict the mean number of inches of rain per year for a city that has a mean temperature of $70°\text{F}$ in July.

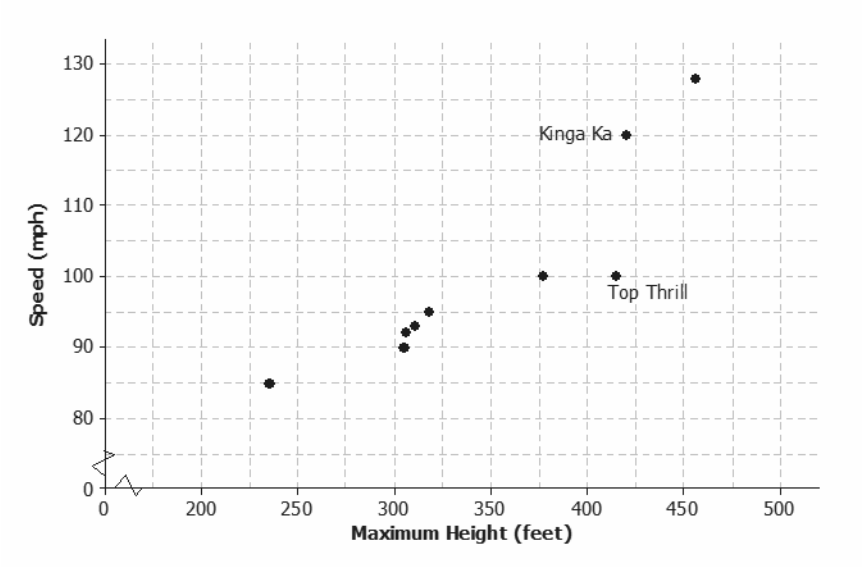
3. Do you think the line provided is a good one for this scatter plot? Explain your answer.

Name _____ Date_____

Lesson 9: Determining the Equation of a Line Fit to Data

Exit Ticket

1. The scatter plot below shows the height and speed of some of the world's fastest roller coasters. Draw a line that you think is a good fit for the data.



Data Source: http://rcdb.com/rhr.htm

2. Find the equation of your line. Show your steps.

3. For the two roller coasters identified in the scatter plot, use the line to find the approximate difference between the observed speeds and the predicted speeds.