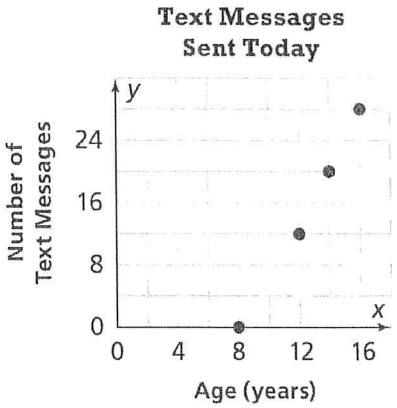
Name _____

Reteach to Build Understanding
**4-1**

A scatter plot is a graph in the coordinate plane that shows the relationship between two sets of data.

The data in the table below can be written as ordered pairs: (8, 0), (12, 12), (14, 20), and (16, 28). The scatter plot shows the ordered pairs on the graph.

| Text Messages Sent Today | | | | |
|---|---|---|---|---|
| **Age (years)** | 8 | 12 | 14 | 16 |
| **Number of Text Messages** | 0 | 12 | 20 | 28 |




There is a positive association between the data sets.

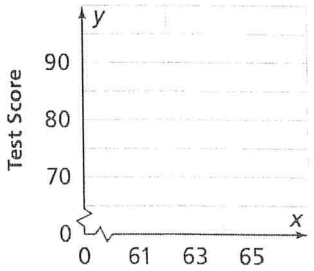
Paul recorded several of his friends' scores on the latest science test and the number of minutes they spent reading the previous weekend. How can Paul construct a scatter plot of his data?

| Time Spent Reading and Test Scores | | | | | |
|---|---|---|---|---|---|
| **Minutes Spent Reading** | 63 | 62 | 64 | 66 | 65 |
| **Test Score** | 65 | 75 | 65 | 70 | 90 |

1. A scatter plot has been started at the right. Add a title for the scatter plot and a label for the *x*-axis.

2. Write the data in the table as ordered pairs.

3. Complete the scatter plot by graphing your ordered pairs from Exercise 2.




4. Is there a relationship between the time students spent reading and their science test scores?

## On the Back!

5. After 5 minutes, Pablo jumped 14.6 feet. After 10 minutes, he jumped 14.1 feet. What are the two ordered pairs?

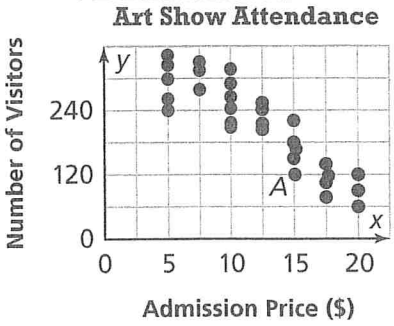


Name _____

Lesson Quiz
**4-1**

1. The scatter plot shows the number of visitors at an art show in relation to admission price. What does Point A on the graph represent?




2. What is a scatter plot?

   Ⓐ A table of measurement data used to construct a graph

   Ⓑ A display of points that shows the relationship between two sets of data

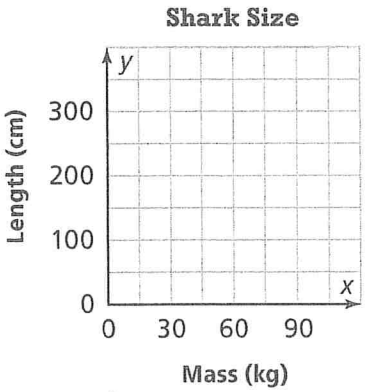
   Ⓒ A graph that has several different lines scattered on a coordinate plane

   Ⓓ A graph that is nonlinear

3. The following table shows the measurements of sharks at an aquarium. Complete the scatter plot below to represent the data.

| **Mass (kg)** | 0.07 | 68 | 70 | 82 | 85 | 90 | 100 | 105 |
|---|---|---|---|---|---|---|---|---|
| **Length (cm)** | 18 | 165 | 210 | 210 | 220 | 300 | 320 | 320 |

4. Refer to the scatter plot. Circle the clusters. Identify any gaps, and list any outliers in the scatter plot. What might the outlier represent?




5. Select all the true statements about the scatter plots in items 1 and 4.

   ☐ The art show attendance scatter plot shows a positive association.

   ☐ The shark size scatter plot shows a positive association.

   ☐ No association means that the *y*-values increase as the *x*-values increase.

   ☐ These scatter plots show the associations between two sets of paired data.

   ☐ A shark of length 90 cm weighed 300 kg.



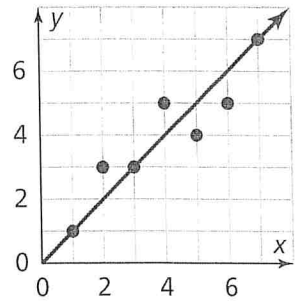
Name _____

Reteach to Build Understanding
**4-2**

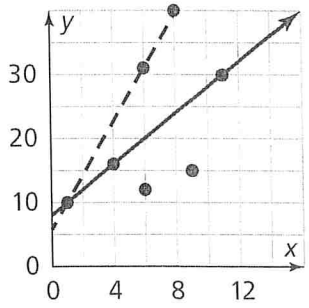
A trend line is a line on a scatter plot, drawn through the middle of the plotted points, that approximates the association between the paired data.

A trend line is a good model of a data set if:

- There is approximately the same number of data points above and below the trend line. Many of the points are about the same distance on either side of the line.
- Most of the data points are close to the trend line (strong association).




Use the scatter plot and the information in the table to determine which trend line is the best model of the data.




Record the answers to Exercises 1–3 in the table.

| Dashed line | Solid line |
|---|---|
| | |
| | |
| | |

1. How many data points lie on the line?

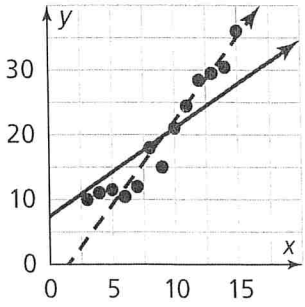
2. How many points are above the line?

3. How many points are below the line?

4. Compare the trend lines using the information in the table. Which trend line is a better model of the relationship and what is the relationship? Explain.

## On the Back!

5. Which trend line is a better model of the relationship indicated by the scatter plot? Explain.





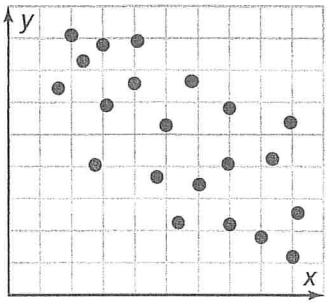

 

Name _____

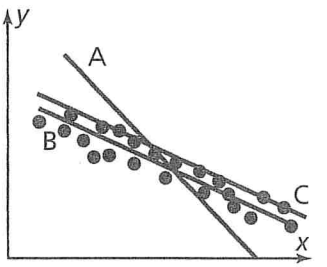
Lesson Quiz
**4-2**

1. How can you tell the difference between a strong linear association and a weak linear association?

2. Draw a trend line in the scatter plot. Then describe the relationship between the two sets of data.

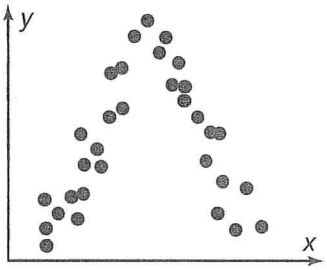



3. Which trend line is the best model of the data? Explain.




4. Which type of association does the scatter plot show?

Ⓐ Weak positive
Ⓑ Strong negative
Ⓒ Strong positive
Ⓓ Nonlinear




5. Using the scatter plot, select all the true statements.

- ☐ There is a strong positive linear association.
- ☐ There is a weak negative association.
- ☐ There are 3 gaps on the scatter plot.
- ☐ There is an outlier at (75, 7).
- ☐ The trend line is accurately placed.