lesson thirteen - student resource sheet

Lesson Objective: Construct, read, and interpret scatter plots.

Vocabulary Box

scatter plot — A graph of points showing the relationship between two sets of data. Example: The graph in the Guided Practice section, Lesson 13, is a scatter plot.

positive relationship — A relationship between two sets of data in which one set of data tends to increase as the other set of data increases. Example: The height of students tends to increase as age increases.

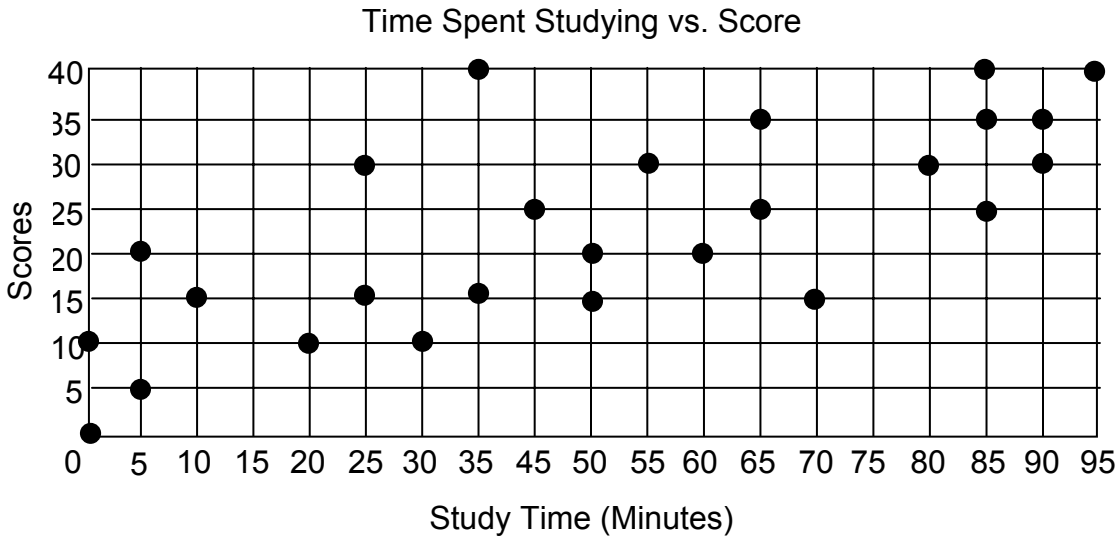
negative relationship — A relationship between two sets of data in which one set of data tends to decrease as another set of data increases. Example: There tends to be less farmland as the population increases.

no relationship — No positive or negative relationship exists between two sets of data. Example: There tends to be no relationship between the number of siblings a person has and shoe size.

Guided Practice

Directions: Complete the following practice problems. Your teacher will review the answers.

I. Refer to the scatter plot below to answer the questions.



1. How many students are in the class? _____
2. How many students in the class received a score of 0? _____
3. How many students got all of the questions on the quiz correct? _____
4. How many students spent one hour studying for the quiz? _____
5. How many students spent 90 minutes or more studying? _____

II. Refer to the graph used in Part I to answer the following questions. Please work on your own.

1. How many students got half of the questions, or less, correct? _____
2. How many students did not study for the quiz? _____
3. How many students spent an hour or more studying? _____
4. Do the data appear to have a positive relationship, a negative relationship, or no relationship? _____

Summary/Closure

A. Vocabulary Words

Give an example of data that could be compared on a scatter plot.

Give an example of data that could have the following:

positive relationship —

negative relationship —

no relationship —

B. Summarize What We Learned Today

Explain how you can tell by looking at a scatter plot whether or not the data show a relationship.

lesson fourteen - student resource sheet

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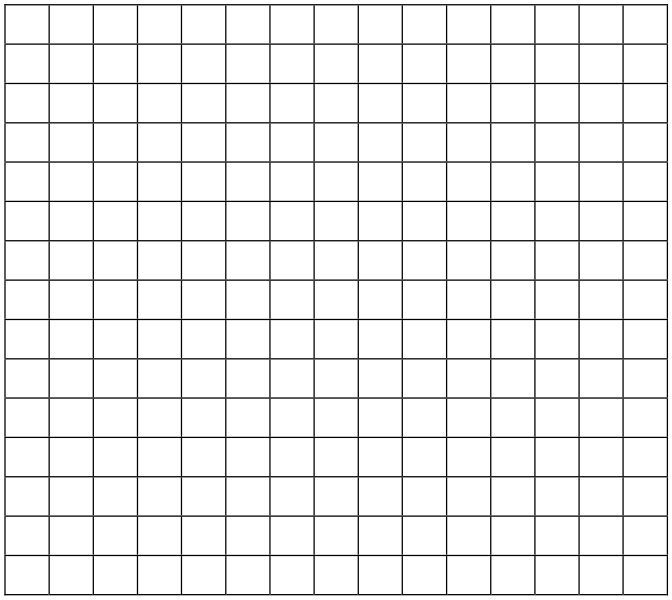
Independent Practice

Directions: Complete the following practice problems on your own. Your teacher will review the answers. Make sure you show all your work.

I. Use the data in the table to construct a scatter plot on graph paper.

A physical education teacher counted the number of push-ups and pull-ups students in her class could complete. On your scatter plot, put the number of push-ups on the vertical axis, and put the number of pull-ups on the horizontal axis. Be sure to title your scatter plot and label your axes.

Student	Al	Bob	Chen	Diego	Eve	Fred	Greg	Hal	Ian	Jen
Number of Pull-Ups	6	2	11	14	1	3	12	6	5	10
Number of Push-Ups	15	10	18	20	8	10	19	14	11	12



II. Use the scatter plot you created to answer the following questions.

1. How many students were able to do more than four pull-ups? _____
2. How many students were able to do only 10 or fewer, push-ups? _____
3. Is there a positive relationship, a negative relationship, or no relationship? _____
4. How many push-ups would you expect from a student who can do seven pull-ups? _____

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Fill in the table based on the following information.

Jane can do three times as many push-ups as James.

Jose can do two fewer push-ups than James.

Jack can do five less than Jose.

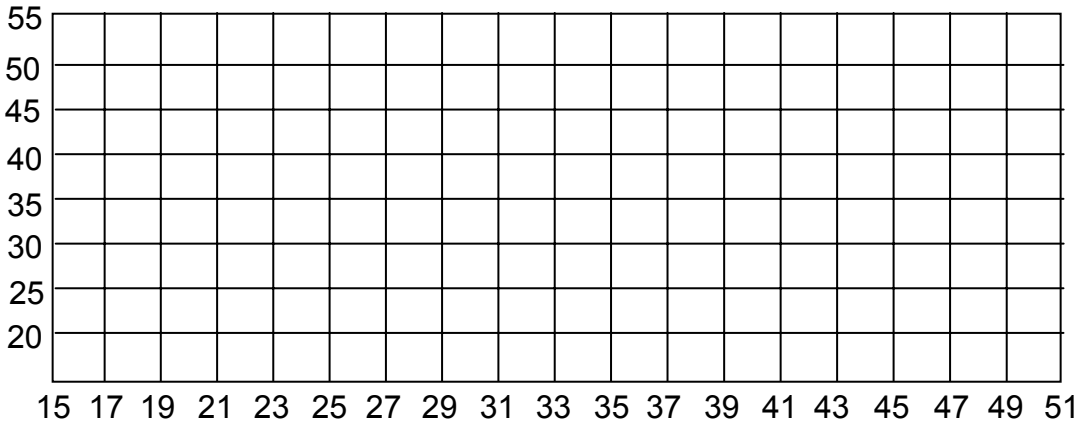
Name	Jane	James	Jose	Jack
Number of Push-Ups				

Problem Solving

You own an ice-skating rink, and you are trying to decide when to close down next season. You think that the number of skaters that come to the rink is related to the temperature outside.

Use the data in the table to construct a scatter plot. Label the title, the horizontal axis, and the vertical axis. HINT: Notice that the scatter plots have different scales.

Temp *°F*	25	20	30	35	30	40	45	50	45	55
Number of Skaters	50	51	47	40	42	35	30	25	32	21



1. Do the data have a positive relationship, a negative relationship, or no relationship?

2. You decide to close down the rink when fewer than 30 people come to skate. At what temperature would you expect 30 people to skate at the rink?

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1. If the points of a scatter plot slope up and to the right, what kind of relationship do the data have? _____

2. If the points of a scatter plot slope down and to the right, what kind of relationship do the data have? _____

3. If one set of data decreases, the other decreases. What type of relationship do the data have? _____

lesson fifteen - student resource sheet

Lesson Objective: Choose and use an appropriate problem-solving strategy.

Guided Practice on Problem Solving Strategies

Use the 10 x 10 grid to record your guesses.

Round 1: Integers between –10 and 10.
Round 2: Integers between –20 and 20.
Round 3: Integers between –30 and 30.
Round 4: Perfect square numbers (4, 9, 16, 25, and so on).
Round 5: Fractions between 0 and 1.
Round 6: Fractions between –1 and 1.
Later rounds: Decision of the partners.

Directions: Solve each problem. Be sure to show your work and write your answer in a complete sentence using words from the problem.

1. A man has $10 but owes the phone company $22. How much is he in debt?

2. The profits and losses for the first three months of Abe's restaurant were: $250, $1,300, and –$978. What was the total profit or loss for the first three months?

3. A plane flies at an elevation of 15,000 feet over a canyon that is 80 feet below sea level. How far above the canyon floor is the plane?

4. A recipe calls for $3\frac{1}{4}$ cups of sugar. If you want to make only half of the recipe, how much sugar will you need?

5. A very large bag contains $24\frac{3}{4}$ cups of popcorn. The label indicates that a serving size is $2\frac{3}{4}$ cups. How many servings are in the bag?

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