

Trend Spotters

Read scatterplot data for patterns.

GRADE 8 • 8.PS.3.d

8.PS.3.d "Make observations about a set of data points in a scatterplot as having a positive linear relationship, a negative linear relationship, or no relationship"

NAME _____

DATE _____

NOTICE THE DIRECTION

A positive linear relationship rises from left to right, so larger x-values usually match larger y-values. A negative linear relationship falls from left to right, so larger x-values usually match smaller y-values. If the points do not show a clear upward or downward pattern, there is no relationship.

WORKED EXAMPLE

Classify the relationship shown by the points (10, 15), (20, 25), (30, 35), and (40, 45).

1. Read the points from left to right.
2. As x increases, y also increases.
3. The points follow a clear upward line pattern.

Answer: positive linear relationship

PRACTICE 6 problems

- 1** Classify the relationship shown by the points (0, 2), (1, 4), (2, 6), and (3, 8).

ANSWER _____

- 2** Classify the relationship shown by the points (1, 12), (2, 10), (3, 8), and (4, 6).

ANSWER _____

- 3** Classify the relationship shown by the points (1, 5), (2, 1), (3, 7), (4, 2), and (5, 6).

ANSWER _____

- 4** Classify the relationship shown by the points (0, 9), (2, 7), (4, 5), and (6, 3).

ANSWER _____

- 5** Classify the relationship shown by the points (0, 7), (1, 2), (2, 6), (3, 1), (4, 7), and (5, 2).

ANSWER _____

- 6** Classify the relationship shown by the points (1, 3), (2, 3), (3, 5), (4, 4), and (5, 7).

ANSWER _____

APPLY IT Show your work

- 1** Maya records the number of guitar practice sessions she has each week and the number of songs she can play without stopping. Her data are (0, 1), (1, 2), (2, 4), (3, 5), and (4, 7). If these points are graphed, what type of relationship would the scatterplot show?

WORK SPACE

ANSWER _____

- 2** A class compares hours spent studying for a quiz with the number of questions missed. The data are (1, 9), (2, 7), (3, 6), (4, 4), and (5, 2). If these points are graphed, what type of relationship would the scatterplot show?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

The points (1, 2), (2, 4), (3, 6), (4, 8), and (5, 1) are shown on a scatterplot. Classify the overall relationship and explain your reasoning in one sentence.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Classify the relationship shown by the points (0, 2), (1, 4), (2, 6), and (3, 8).	positive linear relationship
2	Classify the relationship shown by the points (1, 12), (2, 10), (3, 8), and (4, 6).	negative linear relationship
3	Classify the relationship shown by the points (1, 5), (2, 1), (3, 7), (4, 2), and (5, 6).	no relationship
4	Classify the relationship shown by the points (0, 9), (2, 7), (4, 5), and (6, 3).	negative linear relationship
5	Classify the relationship shown by the points (0, 7), (1, 2), (2, 6), (3, 1), (4, 7), and (5, 2).	no relationship
6	Classify the relationship shown by the points (1, 3), (2, 3), (3, 5), (4, 4), and (5, 7).	positive linear relationship

PART 2 • APPLY IT

1. **positive linear relationship** As the number of practice sessions increases, the number of songs she can play also increases in a clear upward pattern.
2. **negative linear relationship** As study time increases, the number of missed questions decreases in a clear downward pattern.

CHALLENGE

positive linear relationship, because four of the five points rise from left to right and (5, 1) is an outlier.

Accept positive, negative, or no relationship if the student includes the word linear when naming positive or negative relationships. For the challenge, accept an explanation that identifies the upward trend and recognizes (5, 1) as an outlier.