

Scatterplot Detectives

Spot patterns and draw a best-fit line.

GRADE 8 • 8.PS.3

8.PS.3 "The student will apply the data cycle (formulate questions; collect or acquire data; organize and represent data; and analyze data and communicate results) with a focus on scatterplots..."

NAME _____

DATE _____

READ THE PATTERN

A scatterplot shows paired numerical data. Points that rise from left to right have a positive relationship, points that fall have a negative relationship, and scattered points may have no relationship. A line of best fit goes through the middle of the pattern.

WORKED EXAMPLE

Plot (21,31), (26,36), and (31,41).
Name the relationship and give a line of best fit.

1. Plot the three ordered pairs.
2. When x rises 5, y rises 5.
3. The points fit $y=x+10$.

**Answer: Positive linear relationship;
 $y=x+10$.**

PRACTICE 5 problems

- 1** For (0,8), (5,13), (8,16), and (9,17), name the relationship.

ANSWER _____

- 2** For (0,17), (5,12), (8,9), and (9,8), name the relationship.

ANSWER _____

- 3** For (0,12), (5,6), (8,15), and (9,9), name the relationship.

ANSWER _____

- 4** Which data best answers, "Does instrument practice time relate to performance score?"
A. Instrument name and score B. Practice minutes and score C. Favorite song and practice minutes

ANSWER _____

- 5** Plot (0,6), (5,11), (8,14), and (9,15). Name the relationship and sketch a line of best fit.

ANSWER _____

APPLY IT Show your work

- 1** A gamer records practice drills (x) and points earned (y): (0,7), (5,17), (8,23), (9,25). Plot the data. Describe the relationship and sketch a line of best fit.

WORK SPACE

ANSWER _____

- 2** A student records phone alerts (x) and homework focus points (y): (0,25), (5,20), (8,17), (9,16). Plot the data. Describe the relationship and sketch a line of best fit.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

The points (0,6), (5,11), (8,14), (9,15), and (12,8) are plotted. Which point is an outlier? Give a line of best fit for the remaining points.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	For (0,8), (5,13), (8,16), and (9,17), name the relationship.	Positive linear relationship.
2	For (0,17), (5,12), (8,9), and (9,8), name the relationship.	Negative linear relationship.
3	For (0,12), (5,6), (8,15), and (9,9), name the relationship.	No relationship.
4	Which data best answers, "Does instrument practice time relate to performance score?" A. Instrument name and score B. Practice minutes and score C. Favorite song and practice minutes	B. Practice minutes and score.
5	Plot (0,6), (5,11), (8,14), and (9,15). Name the relationship and sketch a line of best fit.	Positive linear relationship; $y=x+6$.

PART 2 • APPLY IT

- Positive linear relationship; $y=2x+7$.** The points rise by 2 points for each additional drill. A line through the points is $y=2x+7$.
- Negative linear relationship; $y=25-x$.** The focus score falls by 1 for each additional alert. A line through the points is $y=25-x$.

CHALLENGE

Outlier: (12,8). Line of best fit: $y=x+6$.

Accept equivalent equations for the listed lines. For sketches, accept a straight line through the main cluster of points, with the challenge outlier excluded.