LESSON MAKER PRO

Spot the Pattern

Plot paired data and describe what you see.

GRADE 8 · 8A.DSP.A.34

8A.DSP.A.34 "Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities, describing patterns in terms of positive, negative, or no association, linear and non-linear association..."

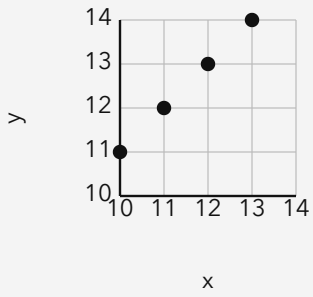
NAME _____ DATE _____

READ THE TREND

Each point on a scatter plot shows two measurements. A pattern that rises from left to right has a positive association; one that falls has a negative association. Check whether the pattern is straight or curved, and look for clusters and outliers.

WORKED EXAMPLE

What pattern do the points show?



1. Read the points from left to right.
2. Each time x rises by 1, y rises by 1.
3. The points follow an upward straight line.

Answer: Positive, linear association.

PRACTICE 4 problems

1 For (0,6), (2,4), (4,2), (6,0), is the association positive or negative? Is it linear?

ANSWER _____

2 For (0,0), (1,1), (2,3), (3,6), is the association positive or negative? Is it linear?

ANSWER _____

3 For (0,1), (1,5), (2,2), (3,6), (4,1), (5,5), is there a positive, negative, or no clear association?

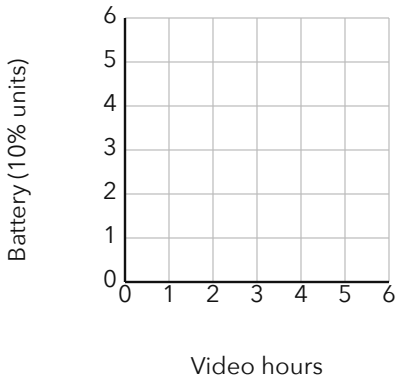
ANSWER _____

4 Which pair is an outlier: (0,0), (1,1), (2,2), (3,3), (4,8)?

ANSWER _____

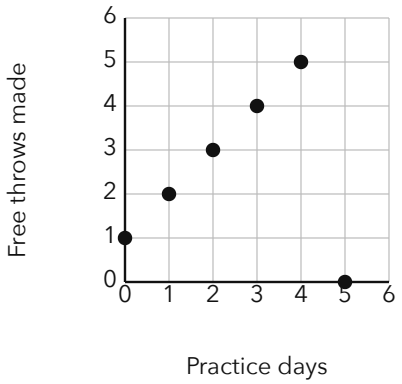
APPLY IT Show your work

1 A phone's video hours and battery levels, in tens of percent, are (1,5), (2,4), (3,3), (4,2), (5,1). Plot the points. Name the association and predict the battery level after 6 hours.



ANSWER _____

2 A player tracks practice days and free throws made out of 6. Describe the pattern for most points. Name the outlier.



ANSWER _____

CHALLENGE One step up

Set A: (0,0), (1,2), (2,4), (3,6). Set B: (0,0), (1,1), (2,4), (3,9). Both have positive association. Which is linear? Explain using the changes in y.

WORK SPACE AND ANSWER

ANSWER KEY

Spot the Pattern

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	For (0,6), (2,4), (4,2), (6,0), is the association positive or negative? Is it linear?	**Negative and linear.**
2	For (0,0), (1,1), (2,3), (3,6), is the association positive or negative? Is it linear?	**Positive and non-linear.**
3	For (0,1), (1,5), (2,2), (3,6), (4,1), (5,5), is there a positive, negative, or no clear association?	**No clear association.**
4	Which pair is an outlier: (0,0), (1,1), (2,2), (3,3), (4,8)?	**(4,8)**

PART 2 · APPLY IT

1. **Negative, linear association; 0% battery after 6 hours.** Plot the five pairs. Each extra hour matches a drop of one 10% unit, so the pattern reaches 0% at 6 hours.
2. **Most points show a positive, linear association. The outlier is (5,0).** The first five points rise along a straight line. The point (5,0) lies far below that pattern.

CHALLENGE

Set A is linear: y rises by 2 each time x rises by 1. Set B is non-linear: its y values rise by 1, then 3, then 5.

Accept descriptions such as "upward straight-line trend" for positive linear association. In the phone problem, accept a prediction of an empty battery.