LESSON MAKER PRO

Spot the Trend

Find a rate, then make a prediction.

GRADE 8 · PA.D.1

PA.D.1 "Display and interpret data in a variety of ways, including using scatter plots and approximate lines of best fit. Use the line of best fit and average rate of change to make predictions and draw conclusions about data..."

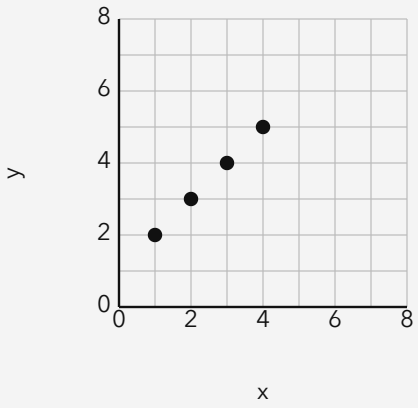
NAME _____ DATE _____

FOLLOW THE PATTERN

A line of best fit follows the overall pattern of points. To find its average rate of change, divide the change in y by the change in x. Use that rate to predict a value not shown.

WORKED EXAMPLE

The points follow a straight trend. Predict y when x = 6.



1. Use (1, 2) and (4, 5).
2. Rate = (5 - 2)/(4 - 1) = 1.
3. From x = 4 to x = 6, add 2 to y: 5 + 2 = 7.

Answer: y = 7

PRACTICE 4 problems

1 A trend passes through (2, 12) and (4, 20). Find its rate of change.

ANSWER _____

2 A trend passes through (3, 9) and (6, 18). Predict y when x = 8.

ANSWER _____

3 A trend passes through (1, 20) and (5, 12). Find its rate of change.

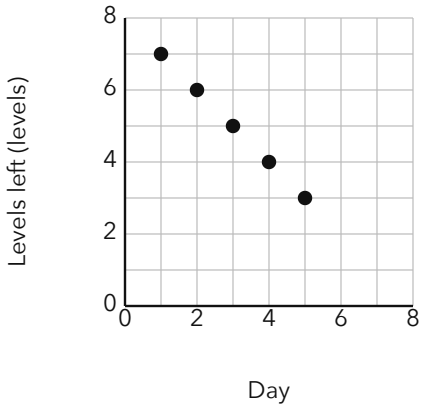
ANSWER _____

4 A trend passes through (2, 5) and (6, 13). Predict y when x = 9.

ANSWER _____

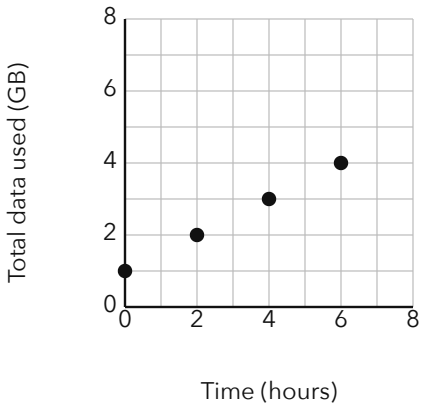
APPLY IT Show your work

1 A gamer tracks levels left to beat. Predict how many remain on day 7. Give the average change per day.



ANSWER _____

2 A phone's total data use rises while a student streams music. Predict total use at 8 hours. Give the rate in GB per hour.



ANSWER _____

CHALLENGE One step up

A trend passes through (2, 16) and (6, 28). At x = 8, an observed point has y = 40. Predict y from the trend. How far above the prediction is the observed point?

WORK SPACE AND ANSWER

ANSWER KEY

Spot the Trend

GRADE 8 · PA.D.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A trend passes through (2, 12) and (4, 20). Find its rate of change.	**4**
2	A trend passes through (3, 9) and (6, 18). Predict y when x = 8.	**24**
3	A trend passes through (1, 20) and (5, 12). Find its rate of change.	**-2**
4	A trend passes through (2, 5) and (6, 13). Predict y when x = 9.	**19**

PART 2 · APPLY IT

1. **1 level left; -1 level per day** The levels left drop by 1 each day. From day 5 to day 7, they drop from 3 to 1.
2. **5 GB; 1/2 GB per hour** Data use rises 1 GB every 2 hours. From 6 to 8 hours, add 1 GB to 4 GB.

CHALLENGE

Predicted y = 34; the observed point is 6 above it.

Accept equivalent units and fractions for rates. In the challenge, the trend's rate is 3, so its prediction at x = 8 is 34.