LESSON MAKER PRO

Fit the Dots

Sketch lines and check how closely they follow the data.

GRADE 8 · 8.DSP.A.19

8.DSP.A.19 "Given a scatter plot that suggests a linear association, informally draw a line to fit the data, and assess the model fit by judging the closeness of the data points to the line."

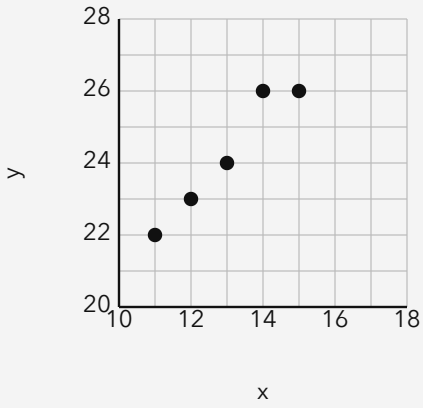
NAME _____ DATE _____

A LINE OF FIT

Sketch a line that runs through the middle of the dots, with dots near both sides. Check the vertical gaps from the dots to the line. Smaller gaps mean a closer fit.

WORKED EXAMPLE

Sketch a line that fits the dots. How close is the fit?



1. Draw a line through (11, 22) and (15, 26).
2. At x = 14, the line reaches y = 25; the dot is at 26.
3. Four dots are on the line. The other dot is 1 unit away.

Answer: This line fits closely.

PRACTICE 4 problems

1 A line predicts 4, and a dot is at 5. What is the vertical gap?

ANSWER _____

2 A line predicts 2, and a dot is at 6. What is the vertical gap?

ANSWER _____

3 A dot is at y = 7. Which prediction is closer, 6 or 3?

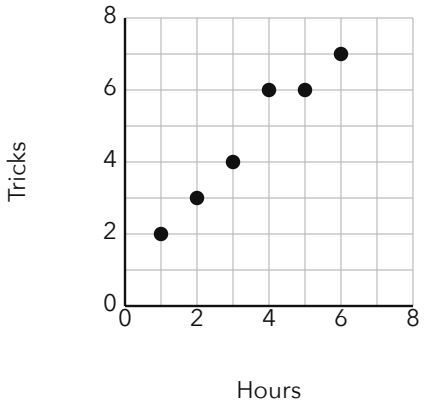
ANSWER _____

4 A line predicts 6 for a dot at 8. Is the dot above or below the line, and by how much?

ANSWER _____

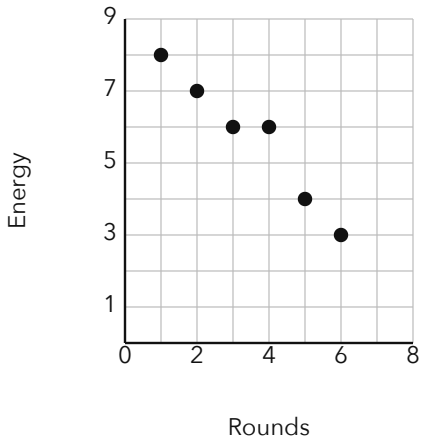
APPLY IT Show your work

1 At a skate park, the graph shows practice hours and tricks landed. Sketch a fit line. Predict the tricks landed after 7 hours, and judge the fit.



ANSWER _____

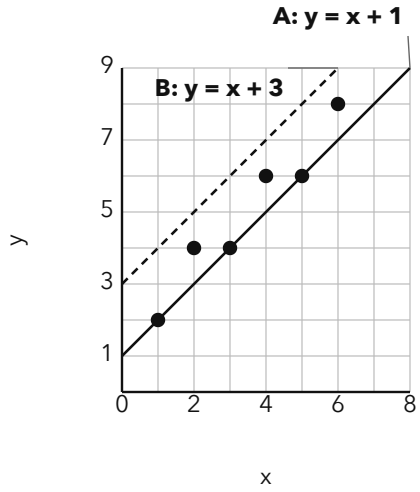
2 In a game, the graph shows energy points left after each round. Sketch a fit line. Predict the energy after 7 rounds, and judge the fit.



ANSWER _____

CHALLENGE One step up

Which printed line fits the dots better? Compare the total vertical gaps for both lines.



WORK SPACE AND ANSWER

ANSWER KEY

Fit the Dots

GRADE 8 · 8.DSP.A.19

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A line predicts 4, and a dot is at 5. What is the vertical gap?	**1 unit**
2	A line predicts 2, and a dot is at 6. What is the vertical gap?	**4 units**
3	A dot is at y = 7. Which prediction is closer, 6 or 3?	**6**
4	A line predicts 6 for a dot at 8. Is the dot above or below the line, and by how much?	**2 units above the line**

PART 2 · APPLY IT

1. **About 8 tricks; a close fit.** One fit line is y = x + 1. It predicts 8 at x = 7, and every dot is within 1 unit of it.
2. **About 2 energy points; a close fit.** One fit line is y = 9 - x. It predicts 2 at x = 7, and every dot is within 1 unit of it.

CHALLENGE

Line A fits better. Its total vertical gap is 3 units, compared with 9 units for line B.

Accept reasonable hand-sketched lines and nearby predictions in the word problems when students justify the fit using the dots' closeness.