



Fitting and using a line

GRADE 8 MATH

Name _____

Date _____

Interpret with units. When a question asks whether to trust a prediction, say why.

WORKED EXAMPLE

Fit a line only to a roughly linear pattern. Judge by the vertical gaps: small, and on both sides all along. Slope = a rate with two units. Intercept = the prediction at $x = 0$, if that means anything. Predictions outside the data are uncertain.

1. What should you check about a scatter plot BEFORE fitting a straight line?

FLUENCY

Show your thinking

Answer

2. Using $y = 8x + 25$, predict the score at 3 hours and at 7 hours.

FLUENCY

Show your thinking

Answer

3. The actual scores at 3 and 7 hours were 48 and 74. Work out how far each is from your prediction.

APPLICATION

Show your thinking

Answer

4. For a line relating a plant's age in weeks (x) to its height in cm (y), the slope is 3. Interpret it.

REASONING

Show your thinking

Answer

5. A line relating a car's age in years to its value in dollars has slope -1200 . Interpret it.

REASONING

Show your thinking

Answer

6. A line relating adult height (cm) to shoe size has intercept -15 . Does the intercept describe anything real? Explain.

REASONING

Show your thinking

Answer

7. Two students fit lines to the same data. One has all points below the line; the other has points on both sides. Whose is the better fit, and why?

REASONING

Show your thinking

Answer

8. SP-01's plant data curves: it rises steeply then flattens at 32 cm. A line through the first two points has slope 7. What does it predict at week 8, and by how much is it out?

APPLICATION

Show your thinking

Answer

9. Why is a prediction inside the range of the data more trustworthy than one outside it?

REASONING

Show your thinking

Answer