



Fitting and using a line

GRADE 8 MATH

Name _____

Date _____

Answer in sentences, with units. One skill: **fitting and using a line**.

WORKED EXAMPLE

Fit a straight line only to a roughly **linear** pattern. Judge the fit by the vertical gaps: they should be small *and* fall on **both sides** of the line all along it — every point below means the line sits too high. Then **interpret in context**: for revision hours against score, $y = 8x + 25$ has slope **8 marks per hour** (a rate, with two units) and intercept **25 marks**, the prediction for no revision at all. Predictions far outside the data are **uncertain**: the model does not know the test stops at 100.

1. A line fitted to revision hours (x) against test score (y) is $y = 8x + 25$.
Interpret the slope in the context of the data.

REASONING

Show your thinking

Answer

2. Interpret the intercept, and say whether it describes something real here.

REASONING

Show your thinking

Answer

3. Use the line to predict the score for 5 hours of revision, and for 40 hours. Which prediction would you trust, and why?

REASONING

Show your thinking

Answer

4. The data covers 1 to 8 hours, and every data point lies on or below the fitted line. What does that tell you about the line, and how would you improve it?

REASONING

Show your thinking

Answer