



GRADE 8 · STATISTICS & PROBABILITY · HOMEWORK

FITTING AND USING A LINE

Today's goal: I can know that straight lines are widely used to model relationships between two quantitative variables; for scatter plots that suggest a linear association, informally fit a straight line and informally assess the model fit and use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.



Pick your peppers!

Everyone does Mild & Medium. Then climb as high as you can.



Mild

Tan the Turtle



Spicy

Blaze the Dragon



Extra Spicy

Pi the Owl



REMEMBER

Fit a line to a roughly linear pattern; judge by small gaps on both sides. Slope = a rate with two units. Intercept = the prediction at $x = 0$, if it means anything. Outside the data, predictions are assumptions.



FAMILY CORNER

No need to remember this math yourself! Ask your student to teach you Mr DJ's example, then try the first Mild problem together.



MILD

Tan the Turtle: Slow and steady. Warm up!

- 1 Using that line, find the pay for 6 hours.

Answer



OOPS ALERT

Careful on #1! The slip Mr DJ sees most: Forgot the \$20.



SPICY

Blaze the Dragon: Bring the heat!

- 2 A line for hours worked (x) against pay in dollars (y) is $y = 15x + 20$. Interpret the slope and the intercept.

Answer

- 3 Using $y = 8x + 25$, predict at 9 and 10 hours. What do these tell you about using the line beyond the data?

Answer

- 4 A line for a baby's age in months (x) against weight in kg (y) has slope 0.5 and intercept 3.5. Interpret both, and say whether the intercept is meaningful.

Answer

- 5 Would you use that baby line to predict the weight of a 25-year-old? Explain.

Answer

- 6 A fitted line has all its points ABOVE it. What is wrong, and what would you change?

Answer

- 7 A slope is given as “12”. Why is that not an interpretation?

Answer



EXTRA SPICY

Pi the Owl: Big-brain challenge.

- 8 Why does the standard ask you to interpret the slope and intercept in CONTEXT rather than just calculate them?

Answer



How did this sheet feel? ☐ Easy for me ☐ Just right ☐ Made me think

Stuck? Watch Mr DJ explain it

Step-by-step video lessons on YouTube: [youtube.com/@MathWithMrDJ](https://www.youtube.com/@MathWithMrDJ)

Brain break: daily puzzles

Three new math puzzles every day, free: puzzles.mathwithmrdj.com