Lesson 4.5 Practice: Cautions about Regression and Causation

School Launch · Statistics · Unit 4: Scatterplots, Correlation and Regression · Worksheet A

Calculator / tables

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

1. A line $\hat{y} = 28 + 3x$ was fit for x from 2 to 10. Compute the prediction at $x = 41$, and say whether it is trustworthy. EASY

2. A line $\hat{y} = 46 + 2x$ was fit for x from 2 to 13. Compute the prediction at $x = 37$, and say whether it is trustworthy. EASY

3. A line $\hat{y} = 23 + 4x$ was fit for x from 2 to 12. Compute the prediction at $x = 49$, and say whether it is trustworthy. EASY

4. A line $\hat{y} = 23 + 2x$ was fit for x from 2 to 14. Compute the prediction at $x = 51$, and say whether it is trustworthy. MEDIUM

5. A line $\hat{y} = 20 + 3x$ was fit for x from 2 to 10. Compute the prediction at $x = 28$, and say whether it is trustworthy. MEDIUM

6. A line $\hat{y} = 52 + 2x$ was fit for x from 2 to 11. Compute the prediction at $x = 44$, and say whether it is trustworthy. MEDIUM

7. A line $\hat{y} = 33 + 2x$ was fit for x from 2 to 10. Compute the prediction at $x = 40$, and say whether it is trustworthy. MEDIUM

8. A line $\hat{y} = 43 + 4x$ was fit for x from 2 to 13. Compute the prediction at $x = 49$, and say whether it is trustworthy. HARD

9. A line $\hat{y} = 32 + 2x$ was fit for x from 2 to 13. Compute the prediction at $x = 35$, and say whether it is trustworthy. HARD

10. A line $\hat{y} = 43 + 3x$ was fit for x from 2 to 11. Compute the prediction at $x = 43$, and say whether it is trustworthy. HARD