Lesson 4.4 Practice: Residuals and r²

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. The regression line is $\hat{y} = 15 + 3x$, with $r = 0.84$. Find the residual for the point $(5, 24)$ and the value of r^2. EASY

2. The regression line is $\hat{y} = 14 + 3x$, with $r = 0.87$. Find the residual for the point $(3, 23)$ and the value of r^2. EASY

3. The regression line is $\hat{y} = 17 + 2.5x$, with $r = 0.77$. Find the residual for the point $(11, 42)$ and the value of r^2. EASY

4. The regression line is $\hat{y} = 25 + 2.5x$, with $r = 0.71$. Find the residual for the point $(9, 44)$ and the value of r^2. MEDIUM

5. The regression line is $\hat{y} = 28 - 1.5x$, with $r = 0.7$. Find the residual for the point $(13, 8)$ and the value of r^2. MEDIUM

6. The regression line is $\hat{y} = 29 + 1.5x$, with $r = 0.71$. Find the residual for the point $(3, 32)$ and the value of r^2. MEDIUM

7. The regression line is $\hat{y} = 27 + 2x$, with $r = 0.72$. Find the residual for the point $(8, 45)$ and the value of r^2. MEDIUM

8. The regression line is $\hat{y} = 10 + 1.5x$, with $r = 0.58$. Find the residual for the point $(8, 25)$ and the value of r^2. HARD

9. The regression line is $\hat{y} = 10 + 2x$, with $r = 0.92$. Find the residual for the point $(15, 35)$ and the value of r^2. HARD

10. The regression line is $\hat{y} = 23 + 3x$, with $r = 0.81$. Find the residual for the point $(15, 71)$ and the value of r^2. HARD