Practice worksheet | Statistics and regression

Residuals

Name: _____ Date: _____

6 questions | 18 marks

1. For $\hat{y} = 3 + 4x$ and the observation $(2, 13)$, find the residual. [3 marks]

2. For $\hat{y} = 20 - 0.5x$ and the observation $(6, 15)$, find the residual. [3 marks]

3. A residual is -4 kg. Interpret its sign and unit. [3 marks]

4. Residuals are $-0.4, 0.6, -0.2, 0.1, -0.1$. Find their sum. Does a zero sum alone prove a good fit? [3 marks]

5. Residual spread grows as x increases. What feature needs investigation? [3 marks]

6. A line was chosen by eye, not fitted by least squares. Must its residuals sum to zero? [3 marks]