Practice worksheet | Statistics and regression

Least-squares regression

Name: _____ Date: _____

6 questions | 18 marks

1. Find the line from $\bar{x}=6$, $\bar{y}=20$, $Sxx=10$ and $Sxy=25$. [3 marks]

2. Given $r=-0.6$, $sx=5$, $sy=10$, $\bar{x}=8$ and $\bar{y}=30$, find the regression line. [3 marks]

3. A candidate line has residuals -2,1,1. Calculate its sum of squared residuals. [3 marks]

4. Two models have residuals A=(-3,0,3) and B=(-2,1,1). Which has the smaller least-squares error? [3 marks]

5. A regression line has a=7 and b=0.5. Predict y at x=12. [3 marks]

6. A student rounds b=0.08473 to 0.1 before predicting at x=900. Explain the risk. [3 marks]