Practice worksheet | Statistics and regression

Exponential regression

Name: _____ Date: _____

6 questions | 18 marks

1. Find an exact exponential model for $y = 50, 100, 200$ at $x = 0, 1, 2$. [3 marks]

2. For $\hat{y} = 120(1.1)^x$, predict the response at $x = 3$. [3 marks]

3. A log fit is $\ln(\hat{y}) = 1.5 + 0.2x$. Find A and b in $\hat{y} = Ab^x$. [3 marks]

4. Why cannot a zero or negative response be entered directly into a real natural-log regression? [3 marks]

5. A model multiplies by 0.96 each week. Find its modelled change over three weeks. [3 marks]

6. A log-scale regression has $r^2 = 0.94$. State a careful interpretation. [3 marks]