Practice worksheet | Linear and exponential models

Limitations of extrapolation

Name: _____ Date: _____

6 questions | 13 marks

1. Data cover times 2 to 10. Classify predictions at 6 and 15. [2 marks]

2. A model is $V = 50 - 5t$. Explain its physical domain for an initially full draining tank. [2 marks]

3. A sales forecast assumes 10% growth every month. State two assumptions needed for a year-ahead prediction. [2 marks]

4. A model predicts 5000 units, but machine capacity is 3000. Interpret this. [2 marks]

5. A tariff is $C = 5 + 3d$ only for trips up to 20 km. Evaluate at 30 km and explain the limit. [2 marks]

6. Residuals from three new observations are all positive and steadily increasing. What should be checked? [3 marks]