Practice worksheet | Exponential relationships

Choosing and evaluating models

Name: _____ Date: _____

6 questions | 13 marks

1. A quantity is $12, 18, 24, 30$ at equal steps. Choose linear or exponential and justify. [2 marks]

2. Fit an exponential model to $8, 24, 72$ at $t = 0, 1, 2$. [2 marks]

3. Using $Q = 8(3^t)$, predict at $t = 4$. [2 marks]

4. A model predicts 250 and the observation is 238. Find the residual. [2 marks]

5. A model is fitted to data from years 0-5. Is using it at year 3 interpolation or extrapolation? What about year 9? [2 marks]

6. A school club grows by 20% monthly in a model. State one reason this may fail over many years. [3 marks]