Practice worksheet | Exponential relationships

Interpreting logarithmic scales

Name: _____ Date: _____

6 questions | 13 marks

1. What quantity sits halfway between 10 and 1000 on a base-10 logarithmic axis? [2 marks]

2. How many equal log intervals separate 1 and 10000 when adjacent labels differ by a factor of 10? [2 marks]

3. For $M = \log_{10}(\frac{A}{A_0})$, find M when $A = 1000A_0$. [2 marks]

4. Two amplitudes have scale values 4 and 6 under $M = \log_{10}\left(\frac{A}{A_0}\right)$. Find their larger-to-smaller ratio. [2 marks]

5. For $p = -\log_{10} c$, find c when $p = 5$. [2 marks]

6. Why can zero not appear as a value on an ordinary real logarithmic axis? [3 marks]