Practice worksheet | Exponentials and logarithms

Checking domains and the reasonableness of model predictions

Name: _____ Date: _____

6 questions | 14 marks

1. Find the domain of $\log(5-2x)$. [2 marks]

2. Find the domain of $\log x + \log(x-4)$. [2 marks]

3. Solve $\log(x+2) = \log(3x-4)$ and check its domain. [3 marks]

4. A model is $V(t) = 900(0.8)^t$ for an asset bought at t=0. Explain why t=-2 is not a prediction of its resale value after purchase. [2 marks]

5. A population model gives 47.826 individuals. How should a reported prediction be written, and why? [2 marks]

6. A student solves $\log x + \log(x - 3) = 1$ and gives x=-2 because the combined product is 10. Explain precisely why this is invalid. [3 marks]