Practice worksheet | Logarithmic functions

Logarithm laws and change of base

Name: _____ Date: _____

6 questions | 14 marks

1. For $a, b > 0$, expand $\ln\left(\frac{5a^2}{b}\right)$. [3 marks]

2. For $x > 0$, condense $3\log_2 x + \log_2 5$. [2 marks]

3. Find $\log_5 12$ to three decimal places. [2 marks]

4. Simplify $\log_2 48 - \log_2 3$. [2 marks]

5. Explain why replacing $\ln(x^2)$ by $2\ln x$ requires care. [3 marks]

6. If $\ln a = 2$ and $\ln b = -1$, find $\ln\left(\frac{a^2}{b^3}\right)$. [2 marks]