

Logarithmic & Exponential Worksheets

Condense each logarithm.

$$3 \log_3 2 - 2 \log_3 5$$

$$2 \log_4 x - 12 \log_4 y$$

$$\log_5 x + \log_5 y + 3 \log_5 z$$

$$\log_9 2 + \log_9 7 - 4 \log_9 5$$

$$\log_b m + 2 \log_b n + 3 \log_b d$$

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Condense each logarithm.

$$\begin{aligned} & 3 \log_3 2 - 2 \log_3 5 \\ &= \log_3 \frac{2^3}{5^2} \end{aligned}$$

$$\begin{aligned} & 2 \log_4 x - 12 \log_4 y \\ &= \log_4 \frac{x^2}{y^{12}} \end{aligned}$$

$$\begin{aligned} & \log_5 x + \log_5 y + 3 \log_5 z \\ &= \log_5 (xyz^3) \end{aligned}$$

$$\begin{aligned} & \log_9 2 + \log_9 7 - 4 \log_9 5 \\ &= \log_9 \frac{14}{5^4} \end{aligned}$$

$$\begin{aligned} & \log_b m + 2 \log_b n + 3 \log_b d \\ &= \log_b mn^2d^3 \end{aligned}$$