

Properties of Logarithms Maze

Directions: From the starting line, highlight each rectangle that involves a correct use of the properties of logarithms. Get from the starting line to the finish line by moving left, right, up or down, but not diagonally. When you make it to the finish line, take each of the incorrect expressions and rework them in the work space below.



$\log 5 + \log 3$ $= \log 15$	$\ln(e^{2x} y)$ $= 2x + \ln y$	$\log \sqrt{xy}$ $= \frac{1}{2} \log x + \frac{1}{2} \log y$	$\frac{\log_6 2}{\log 6}$ $= \frac{\log 2}{\log 2}$	$\log_3 3$ $= 0$
$4\log_3 a - \log_3 b - \log_3 c$ $= \log_3 \frac{a^4 c}{b}$	$\frac{\log_5 7}{\log 7}$ $= \frac{\log 7}{\log 5}$	$\log_4 1$ $= 4$	$\ln \frac{3\sqrt[3]{x}}{z}$ $= \ln 3 + 3\ln x - \ln z$	$\log_4 4 + 2\log_4 x$ $= \log_4 x^2$
$\log_3 2x^2 y^3$ $= \log_3 2 + 2\log_3 x + 3\log_3 y$	$\log_2 x - 3\log_2 2$ $= \log_2 \frac{x}{8}$	$\ln(2e^x)$ $= 2$	$\frac{\log \sqrt[3]{xy}}{\log 3}$ $= \frac{1}{3} \log x + \log y$	$\frac{1}{3} \log 6 + \frac{1}{3} \log x$ $= \log \sqrt[3]{6x}$
$\log 10 =$ $= 1$	$\log_{25} 5$ $= 2$	$4\log_3 a - \log_3 b - \log_3 c$ $= \log_3 \frac{a^4}{bc}$	$\log_5 4 + 2\log_5 x - 4\log_5 y$ $= \log_5 \frac{4x^2}{y^4}$	$\log \left(\frac{u^4}{v} \right)$ $= 4\log u - \log v$
$\log_{36} 6$ $= \frac{1}{2}$	$\log \sqrt[3]{xy}$ $= \frac{1}{3} \log x + \frac{1}{3} \log y$	$\ln x - 4\ln y$ $= \ln \left(\frac{x}{y^4} \right)$	$\log(xyz^2)$ $= \log x + \log y + \log z$	$\frac{\ln \sqrt[4]{x}}{y^2}$ $= \ln 4 + \frac{1}{3} \ln x - 2\ln y$

Show corrections here:

