

Algebra 2

Unit: Exponential and Logarithmic Functions

Section: Comparing Logarithmic and Exponential Functions

Example: Properties of Logarithms

Problem

Write $\log_x 3a - \log_x b + \log_x bc$ as a single logarithm.

Solution

Use the product and quotient properties of logarithms to solve this problem.

Using the quotient property of logarithms we can write $\log_x 3a$ divided by b minus $\log_x bc$.

Using the product property of logarithms we can write $\log_x 3a$ times b times c divided by b .

Simplifying the fraction the final answer is $\log_x 3ac$.