

Question 1 of 15

Use the product property of logarithms to write the logarithm as a sum of logarithms. Then simplify if possible. Assume that the variable represents a positive real number.

$$\log_2(32y)$$

$$\log_2(32y) = \boxed{}$$

Question 2 of 15

Use the quotient property of logarithms to write the logarithm as a difference of logarithms. Then simplify if possible. Assume that the variables represent positive real numbers.

$$\log_{10}\left(\frac{a}{b}\right)$$

$$\log_{10}\left(\frac{a}{b}\right) = \boxed{}$$

Question 3 of 15

Apply the power property of logarithms. Assume that all variable expressions represent positive real numbers.

$$\log_7 \sqrt[7]{p^5}$$

$$\log_7 \sqrt[7]{p^5} = \boxed{}$$

Question 4 of 15

Write the logarithm as a sum or difference of logarithms. Simplify each term as much as possible. Assume that the variables represent positive real numbers.

$$\log_9 (2ab)$$

$$\log_9 (2ab) = \boxed{}$$

Question 5 of 15

Write the logarithm as a sum or difference of logarithms. Simplify each term as much as possible. Assume that the variables represent positive real numbers.

$$\log_5 \left(\frac{x^6}{yz} \right)$$

$$\log_5 \left(\frac{x^6}{yz} \right) = \boxed{}$$

Question 6 of 15

Write the logarithm as a sum or difference of logarithms. Simplify each term as much as possible. Assume that the variables represent positive real numbers.

$$\log_2 \left(\frac{m^2}{n p^5} \right)$$

$$\log_2 \left(\frac{m^2}{n p^5} \right) = \boxed{}$$

Question 7 of 15

Write the logarithm as a sum or difference of logarithms. Simplify each term as much as possible. Assume that the variables represent positive real numbers.

$$\ln \left(\frac{\sqrt[6]{rs}}{u^2 v} \right)$$

$$\ln \left(\frac{\sqrt[6]{rs}}{u^2 v} \right) = \boxed{}$$

Question 8 of 15

Write the logarithm as a sum or difference of logarithms. Simplify each term as much as possible. Assume that all variable expressions represent positive real numbers.

$$\log \left[\frac{3x(x^2 - 4)^4}{\sqrt{4 + 3x}} \right]$$

$$\log \left[\frac{3x(x^2 - 4)^4}{\sqrt{4 + 3x}} \right] = \boxed{}$$

Question 9 of 15

Write the logarithm as a sum or difference of logarithms. Simplify each term as much as possible. Assume that all variable expressions represent positive real numbers.

$$\log_3 \sqrt[5]{m\sqrt{3}}$$

$$\log_3 \sqrt[5]{m\sqrt{3}} = \boxed{}$$

Question 10 of 15

Write the logarithmic expression as a single logarithm with coefficient 1, and simplify as much as possible.

$$\log 2580 - \log 6 - \log 43$$

$$\log 2580 - \log 6 - \log 43 = \boxed{}$$

Question 11 of 15

Write the logarithmic expression as a single logarithm with coefficient 1, and simplify as much as possible. Assume that all variable expressions represent positive real numbers.

$$5[\log(p-5) - \log(p-1) - \log(p+5)]$$

$$5[\log(p-5) - \log(p-1) - \log(p+5)] = \boxed{}$$

Question 12 of 15

Write the logarithmic expression as a single logarithm with coefficient 1, and simplify as much as possible. Assume that all variable expressions represent positive real numbers.

$$\frac{1}{4} \ln(x+2) - \frac{1}{4} \ln(x-2)$$

$$\frac{1}{4} \ln(x+2) - \frac{1}{4} \ln(x-2) = \boxed{}$$

Question 13 of 15

Write the logarithmic expression as a single logarithm with coefficient 1, and simplify as much as possible. Assume that the variables represent positive real numbers.

$$9 \log_6 x - 5 \log_6 y - 4 \log_6 z$$

$$9 \log_6 x - 5 \log_6 y - 4 \log_6 z = \boxed{}$$

Question 14 of 15

Write the logarithm as a sum or difference of logarithms. Simplify each term as much as possible. Assume that the variables represent positive real numbers.

$$\log_3 \left(\frac{x^6}{y^2 z} \right)$$

$$\log_3 \left(\frac{x^6}{y^2 z} \right) = \boxed{}$$

Question 15 of 15

Write the logarithmic expression as a single logarithm with coefficient 1, and simplify as much as possible. Assume that all variable expressions represent positive real numbers.

$$\log(5m^5 + 3m) + \log m^{-1}$$

$$\log(5m^5 + 3m) + \log m^{-1} = \boxed{}$$