

Answer on Question #44468– Math–Algebra

Question:

Using laws of logarithms, write the given expressions using sums and/or differences of logarithmic expressions which do not contain the logarithms of products, quotients, or powers.

$$\ln(87x) = ?$$

Solution.

Since, $\ln ab = \ln a + \ln b$. We have

$$\ln(87x) = \ln 87 + \ln x$$

Also $87 = 29 \cdot 3$, hence $\ln 87 = \ln 29 + \ln 3$. Thus,

$$\ln(87x) = \ln 29 + \ln 3 + \ln x$$

Answer. $\ln(87x) = \ln 29 + \ln 3 + \ln x$