

Problem Definition

Problem 33. Write the expression as a sum, difference, or multiple of logarithms using properties of logarithms.

$$\ln(xyz)$$

Solution Step 1:

We need to use the additive property of logarithms given by the following:

$$\log_b(xy) = \log_b(x) + \log_b(y)$$

This allows us to write

$$\ln(xyz) = \ln(x) + \ln(yz) = \ln(x) + \ln(y) + \ln(z)$$

The result has used the additive property twice to get the result.