Logarithmic Expressions - Step-by-Step Lesson

Using the properties of logarithms, expand the following:

Ln $[(4x-6)(5x+8)]^5$

Explanation:

This problem involves natural logarithm, "ln" instead of common logarithm, "log".

Step 1:   Property#1:   ln a^x = x lna

Given that:

ln $[(4x-6)(5x+8)]^5$

Applying it we get:

5ln $[(4x-6)(5x+8)]$

Step 2: Property#2: ln a*b = ln a + ln b

Applying it we get:

5[ln (4x-6) +ln (5x+8)]

Hence,

Answer: ln $[(4x-6)(5x+8)]^5$ = 5[ln (4x-6) +ln (5x+8)]