

“What to say in front of the blackboard” – a brief tutorial

Exercise: Calculate the derivative of $4^x * \log_4 x$

$$(4^x * \log_4 x)' =$$

*the derivative of four to the power of x
multiplied by the logarithm to base four of x*

$$(4^x * \ln 4) \log_4 x$$

*using product rule we calculate the derivative
of the first function and multiply it by the
second unchanged function , after that...*

+

$$4^x \ln 4 / x$$

*...we add the product of the first function and
the derivative of the second function which
gives us: four to the power of x times the
natural logarithm of four times the logarithm
to base four of x, plus four to the power of x
times the natural logarithm of four divided by x*

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