

Answer on Question#57034- < Math > - < Algebra >

10: Which of the following statements are not true?

Check all that apply.

$$\log M^p = p * \log M$$

$$\log M - \log N = \log(M - N)$$

$$\log M + \log N = \log(MN)$$

$$\log\left(\frac{M}{N}\right) = \frac{\log M}{\log N}$$

Solution:

$$\log M - \log N = \log(M - N)$$

$$\log\left(\frac{M}{N}\right) = \frac{\log M}{\log N}$$

Answer: $\log M - \log N = \log(M - N)$

$$\log\left(\frac{M}{N}\right) = \frac{\log M}{\log N}$$

11: Simplify the expression below and write it as a single logarithm:

$$3 \log(x + 4) - 2 \log(x - 7) + 5 \log(x - 2) - \log(x^2)$$

A: $\log\left(\frac{(x+4)^3(x-7)^5}{(x-2)^5x^2}\right)$

B: $\log\left(\frac{(x+4)^3(x-7)^2}{(x-2)^{-5}x^{-2}}\right)$

C: $\log\left(\frac{x^2(x+4)^3(x-7)^5}{(x-2)^5}\right)$

D: $\log\left(\frac{(x+4)^3(x-2)^5}{(x-7)^2x^2}\right)$

Answer: D: $\log\left(\frac{(x+4)^3(x-2)^5}{(x-7)^2x^2}\right)$

12: If $\log_7 75 = 1.875$, then what is the value of $\log_{100} 75$

A: 0.1875

B: 0.9375

C: . 01875

D:. 009375

Solution:

$$\log_{100} 75 = \log_{10^2} 75 = \frac{1}{2} \log_{10} 75 = \frac{1}{2} \cdot 1.875 = 0.9375$$

Answer: B: 0.9375