

Answer on Question #44467 – Math - Algebra

Rewrite the exponential equation  $\log(A\sqrt{B}) + \log(A^2)$  in equivalent logarithmic form.

Solution :

One of the logarithm properties :

$$\text{Log}(A * B) = \text{Log}(A) + \text{Log}(B)$$

And other one

$$\text{Log}(A^N) = N * \log(A)$$

In this case :

$$\begin{aligned} \log(A\sqrt{B}) + \log(A^2) \\ = \log(A) + \log(\sqrt{B}) + 2\log(A) = 3\log(A) + \log(\sqrt{B}) = \log(A^3\sqrt{B}) \end{aligned}$$

Or

$$\log(A\sqrt{B}) + \log(A^2) = 3 \log(A) + 0.5 \log(B)$$