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

Solution :

One of the logarithm properties :

$$Log(A * B) = Log(A) + Log(B)$$

And other one

$$Log(A^N) = N * log(A)$$

In this case :

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

Or

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