

Correct. Because A is 10,000 times as large as A_0 , $A = 10,000A_0$. Substitute this expression in for A .

$$R = \log \left(\frac{10,000A_0}{A_0} \right) = \log 10,000$$

Now $10^4 = 10,000$, so $\log 10,000 = 4$ and $R = 4$.