First use the power property: $\log_b M^n = n \cdot \log_b M$

Then use the product property: $\log_b MN = \log_b M + \log_b N$

$\log_2(8x)^4 = 4 \cdot \log_2 8x = 4(\log_2 8 + \log_2 x) = 4(3 + \log_2 x) = 12 + 4 \cdot \log_2 x$