

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

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

$$\log_6(6x)^2 = 2 \cdot \log_6 6x = 2(\log_6 6 + \log_6 x) = 2(1 + \log_6 x) = 2 + 2 \cdot \log_6 x$$