1. Compute \( \int_1^4 3^x \, dx \) 
\[
\int_1^4 3^x \, dx = \text{__________________________}
\]

2. What is the average value of \( f(x) = 3^x \) on the interval \([1, 4] \)?

\[
\text{Average value} = \text{__________________________}
\]