

Name: _____

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Asymptotic Notation

Prove or contradict each claim.

1. $2^{n+10} = O(2^n)$

2. $2^{10n} = O(2^n)$

3. for every $k \geq 1$, n^k is **not** $O(n^{k-1})$

4. $21n (\log_2(n) + 1) = \Theta(n \log_2 n)$