THE CHINESE UNIVERSITY OF HONG KONG
Department of Mathematics

MATH 2055 Tutorial 4 (Oct 12)

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1. Prove $\lim_{n\to\infty} \frac{2^n}{n!} = 0$.

2. Let $b \in \mathbb{R}$ such that $0 < b < 1$. Show that $\lim_{n\to\infty} (nb^n) = 0$

3. Let $\lim_{n\to\infty} x_n = x$. Let $g_n = \frac{\sum_{i=1}^{n} x_i}{n}$, prove that $\lim_{n\to\infty} g_n = x$