

HW 4-17

① Show that the series $\sum_{n=1}^{\infty} \frac{x^n}{n}$ converges on $(-1, 1)$, but not uniformly.

② Prove that $\sum_{k=1}^{\infty} \frac{(x+1)^k}{k^3}$ converges for $-2 \leq x \leq 0$, and its sum is a continuous function on $[-2, 0]$.