

# W10 Stepwise

Due date: Thursday 3/19, 11:59pm

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## Ratio and root tests

Apply the ratio test or the root test to determine whether each of the following series is absolutely convergent, conditionally convergent, or divergent.

(a)  $\sum_{k=0}^{\infty} \left( \frac{k}{3k+1} \right)^k$       (b)  $\sum_{n=1}^{\infty} (-1)^n \frac{e^n}{n!}$       (c)  $\sum_{n=1}^{\infty} \frac{1}{(2n)!}$

**✍ Power series - radius and interval**

Find the radius and interval of convergence for these power series:

$$(a) \sum_{n=1}^{\infty} \frac{x^n}{n^2 3^n} \quad (b) \sum_{n=1}^{\infty} \frac{x^n}{n 3^n} \quad (c) \sum_{n=1}^{\infty} \frac{x^n}{3^n}$$