

Written HW13 – MATH 2502 Spring 2021

**Due by 6 April for timely completion credit**

Use the ratio test or the root test to determine if the series converges or diverges.

1.  $\sum_{k=1}^{\infty} \frac{k!}{e^k}$

2.  $\sum_{k=1}^{\infty} \frac{k^k}{3^{3k}}$

3.  $\sum_{k=1}^{\infty} \frac{(-1)^k k^2 2^k}{k!}$