1. Use integral test to determine whether the series converges or diverges:

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

Use the comparison or limit comparison test to determine whether the following series converges or diverges:
(1)

(2)

$$\sum_{n=1}^{\infty} \frac{n+3}{4n^3+3}$$

$$\sum_{k=1}^{\infty} \frac{4}{3+5^k}$$

Please fold the paper and write your NAME and UT EID clearly on the back.