

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

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

2. Use the comparison or limit comparison test to determine whether the following series converges or diverges:

(1)

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

(2)

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