

Extra practice for section 9.4

Determine whether each series converges or diverges by using an appropriate test.

Use the following tests once each:

Basic comparison test

Ratio test

Integral test

Limit comparison test

Be sure to state which test you are using and, if applicable, what series you are using for comparison.

1. (5) $\sum_{n=1}^{\infty} \frac{1}{\sqrt{n(n+1)(n+2)}}$

$$2. \quad (5) \quad \sum_{n=1}^{\infty} \frac{n^5 + 4n^3 + 1}{2n^8 + n^4 + 2}$$

$$3. \quad (5) \quad \sum_{n=2}^{\infty} \frac{\ln n}{n}$$

$$4. \quad (5) \quad \sum_{n=1}^{\infty} \frac{n+1}{2^n n!}$$