

Lesson 10.8: Direct Comparison Test & Limit Comparison TestDirect Comparison Test

Informally:

1.

2.

Examples: Determine the convergence or divergence of the following.

1. $\sum_{n=1}^{\infty} \frac{1}{1+2^n}$

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

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

Limit Comparison Test

This limit comparison works well when comparing _____ algebraic series to an easier p -Series, disregard all but the highest powers of n in the numerator and denominator.

Examples: Determine the convergence or divergence of the following.

1. $\sum_{n=1}^{\infty} \frac{1}{3n^2-4}$

2. $\sum_{n=1}^{\infty} \frac{\sqrt{n}}{n+7}$

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