Reading Questions 4

1. The comparison test is a test that can be used to determine if a series converges.

2. A $p-$series converges if $p > 1$ and diverges if $p \leq 1$.

3. The limit comparison test requires the terms of the series to be positive.

4. Which test was used in the example?

Section 9.4 Tests for Convergence (Part 1)

Comparison Test

P 1. When choosing a test to determine if a series converges or diverges you should look for common patterns in the terms. Does the series $\sum\limits_{n=1}^{\infty} \frac{20}{n^{20}}$ converge or diverge.

P 2. Is the sequence $\frac{n^2-5}{n^3+n+2}$ larger or smaller than the sequence $\frac{1}{n}$? Justify your answer by using inequalities?

P 3. When determining if a series converges or diverges be sure to state the test being used. Does the series $\sum\limits_{n=1}^{\infty} \frac{n+2}{n^4+n+1}$ converge or diverge.

Limit Comparison

P 4. Use the Limit Comparison Test to determine if the series $\sum\limits_{n=1}^{\infty} \frac{n+5}{n^2+4}$ converges or diverges. In general, you may use any test to determine if a series converges or diverges.

P 5. Use the Limit Comparison Test to determine if the series $\sum\limits_{n=1}^{\infty} \frac{n+2}{n^4+n+1}$ converges or diverges.