Section 9.6 Ratio and Root Test (Last 2 tests!)

Geometric series have a constant ratio between terms. Other series have ratios that are not constant. We will look at the ratio between consecutive terms to determine convergence.

**Ratio Test**

1. If , then converges absolutely.

2. If (constant or , then diverges.

3. If , then test is inconclusive.

Use this test for exponential or factorial expressions.

Example:

Try:

And finally . . . **The Root Test**

1. If , then converges absolutely.

2. If , then diverges.

3. If , then the test is inconclusive.

Use this test for expressions raised to the nth power.

Examples:

Try: