Calculus Section 9.3 p-Series Test
-Use properties of the p-series and harmonic series

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**Definition of a p-Series**A p-series is a type of series that follows the following pattern:
 
where p is a positive constant. For p = 1, the series is called the **harmonic series**.

**Convergence of p-Series**The p-series (The proof follows from the Integral test.)
1) converges if p > 1
2) diverges if 0 < p ≤ 1

**Proof) Divergence of the Harmonic Series**Show that the harmonic series  diverges.

**Example) Convergent and Divergent p-Series**1)  2)  3) 