Math 34 Quiz 9a Fall 2013

Name KEY Section

Fill in the blanks.

1. A geometric series $\sum_{n=0}^{\infty} ar^{n-1}$ converges if and only if $|r| < 1$.

2. A series $\sum_{n=1}^{\infty} a_n$ converges to the sum S if and only if

   the sequence of partial sums $\{S_n\}$ converges to S.

3. Given a series $\sum_{n=1}^{\infty} a_n$ and discrete function $f(n) = a_n$ which is extended to the function $f(x)$, the three conditions which $f(x)$ must meet in order to use the integral test are that $f(x)$ is continuous,

   positive and eventually decreasing.

4. A p-series $\sum_{n=1}^{\infty} \frac{1}{n^p}$ converges if and only if $p > 1$.

5. The (ordinary) comparison test can be used to show that the series $\sum_{n=1}^{\infty} a_n$ diverges

   if a divergent series $\sum_{n=1}^{\infty} b_n$ can be found with $0 \leq b_n \leq a_n$ for all $n \geq N$.

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1. A series $\sum_{n=1}^{\infty} a_n$ converges to the sum S if and only if

   the sequence of partial sums $\{S_n\}$ converges to S.

2. Given a series $\sum_{n=1}^{\infty} a_n$ and discrete function $f(n) = a_n$ which is extended to the function $f(x)$, the three conditions which $f(x)$ must meet in order to use the integral test are that $f(x)$ is continuous,

   positive and eventually decreasing.

3. A p-series $\sum_{n=1}^{\infty} \frac{1}{n^p}$ diverges if and only if $p \leq 1$.

4. A geometric series $\sum_{n=0}^{\infty} ar^{n-1}$ converges if and only if $|r| < 1$.

5. The (ordinary) comparison test can be used to show that the series $\sum_{n=1}^{\infty} a_n$ converges

   if a convergent series $\sum_{n=1}^{\infty} b_n$ can be found with $0 \leq a_n \leq b_n$ for all $n \geq N$.