Quiz 3
Math 336, Winter '00

1. Let $\sum_{j=1}^{\infty} a_n$ be a series. When does the series converge and what is its sum equal to?

2. Following are four series. Two converge and two diverge. Identify one of the convergent ones and one of the divergent ones, and provide a short justification in each case (for example, name a test or state a theorem that will support your claim; if you name the comparison test, indicate which series you want to compare with).

- $\sum_{j=1}^{\infty} \frac{j^2-3j+1}{j^3-4j+5}$
- $\sum_{j=1}^{\infty} e^{-j} \cos(\pi j/2)$
- $\sum_{j=1}^{\infty} \frac{\log j}{j^3}$
- $\sum_{j=1}^{\infty} \sqrt{j^2+j} - j$