MA 2733
Worksheet 2 – November 5, 2012

Name _____

1. Using the Integral Test.

   (a) Explain in 1-2 sentences why $\frac{1}{n} \geq \frac{1}{n \ln n} \geq \frac{1}{n(\ln n)^2}$ for $n \geq N$. What is N?

   (b) Discuss convergence of $\sum_{n=2}^{\infty} \frac{1}{n \ln n}$.

   (c) Discuss convergence of $\sum_{n=2}^{\infty} \frac{1}{n(\ln n)^2}$.

2. Discuss convergence of $\sum_{n=1}^{\infty} \frac{\sin^2 n}{2n^2 + 100n}$.