

Multiple choice problems for sections 12.5, 12.6, 12.7

Math 104, Spring 2007

Credit is given only if you choose the correct answer *and* show supporting work.

1. Determine whether the following series converges absolutely, converges conditionally, or diverges,

$$\sum_{n=0}^{\infty} (-1)^n \frac{1}{\sqrt{n^2 + 1}}.$$

Justify your answer. (Credit is given only if you clearly indicate which tests you have used, and apply them correctly.)

2. Determine whether the following series converges absolutely, converges conditionally, or diverges,

$$\sum_{n=1}^{\infty} \frac{\ln n}{n^2}.$$

Justify your answer. (Credit is given only if you clearly indicate which tests you have used, and apply them correctly.)

3. Determine whether the following series converges absolutely, converges conditionally, or diverges,

$$\sum_{n=1}^{\infty} \frac{\cos n}{n^2 + \sqrt{n}}.$$

Justify your answer. (Credit is given only if you clearly indicate which tests you have used, and apply them correctly.)