Take-Home Quiz 4

Math 133 Section 22

Due Monday, May 8

For each of the following series, determine whether or not the series converges. Be sure to mention which test you are using, and to describe how you applied the test.

Problem 1. (1 point).

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

Problem 2. (1 point).

$$\sum_{n=1}^{\infty} \frac{1}{n \cdot \sqrt{n}}$$

Problem 3. (1 point).

$$\sum_{n=1}^{\infty} \frac{1}{n \cdot (n+1)}.$$

Problem 4. (2 points).

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

Problem 5. (2 points).

$$\sum_{n=3}^{\infty} \frac{2n + 17}{n^2 - 5}$$

Problem 6. (2 points).

$$\sum_{n=1}^{\infty} \frac{n+2}{2n+3}$$

Problem 7. (2 points).

$$\sum_{n=1}^{\infty} \frac{4^n + n}{n!}$$

Problem 8. (2 points).

$$\sum_{n=1}^{\infty} \frac{n}{1 + n \cdot 2^n}$$

Problem 9. (2 points).

$$\sum_{n=1}^{\infty} \frac{n!}{n^{15}}$$