

Name _____

Homework 14
section 9.4

1. (3) Use a basic comparison to determine whether $\sum_{n=1}^{\infty} \frac{2 + \cos n}{n^2}$ converges or diverges.
2. (4) Use the limit comparison test to determine whether $\sum_{n=1}^{\infty} \frac{8n^2 - 7}{e^n(n+1)^2}$ converges or diverges.

For numbers 3-5, determine whether the series is absolutely convergent, conditionally convergent or divergent. State which test you are using, and be sure to check that the hypotheses are satisfied.

3. (5) $\sum_{n=1}^{\infty} (-3)^n \frac{n+1}{e^n}$

$$4. \quad (4) \sum_{n=2}^{\infty} (-1)^{n-1} \frac{\sqrt[3]{n}}{n-1}$$

$$5. (4) \sum_{n=1}^{\infty} (-1)^{n-1} \frac{2^{2n}}{(2n-1)!}$$