Name _____

Homework 16
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) $\displaystyle\sum_{n=1}^{\infty}(-3)^n\frac{n+1}{e^n}$

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

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