Math 126 – Quiz 9 Name_____

Do the following alternating series absolutely converge, conditionally converge or diverge? Justify your answer.

1. $\sum_{n=1}^{\infty} (-1)^{n+1} \frac{1}{n^{3/2}}$

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

3. $\sum_{n=2}^{\infty} (-1)^{n+1} \left(\frac{\ln(n^2)}{\ln n} \right)^n$

4. Estimate the magnitude of the error in using the sum of the first nine terms to approximate the following series.

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