

NAME: _____

Instructions: This is your seventh quiz. This quiz will **NOT** be multiple choice, but will be a traditional quiz.

Problem 1: State carefully the alternating series test for series of the form

$$\sum_{n=1}^{\infty} (-1)^{n-1} a_n$$

Problem 2: Is the series

$$\sum_{n=1}^{\infty} \frac{n + 2^n}{n + 5^n}$$

convergent or divergent? Explain your reasoning carefully.

Problem 3: Is the series

$$\sum (-1)^{n-1} \frac{4n-1}{5n+2}$$

convergent or divergent? Explain your reasoning carefully.

Problem 4: Is the series

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

convergent? Clearly explain your reasoning.