NAME:_____

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.