Problems. January 22.

1. Test the series for absolute convergence, conditional convergence or divergence
$$\sum_{n=2}^{\infty}(-1)^{n-1}\frac{1}{n(\ln n)^2}.$$

2. Test the series for absolute convergence, conditional convergence or divergence
$$\sum_{n=2}^{\infty}(-1)^{n-1}\frac{1}{n\ln n}.$$

3. Test the series for absolute convergence, conditional convergence or divergence
$$\sum_{n=1}^{\infty}(-1)^{n-1}\frac{1}{1+e^{-n}}.$$

4. Given
$$\sum_{n=1}^{\infty}\frac{(-1)^{n-1}}{n^2+1}.$$
Check the hypotheses of the Alternating Series Test. How many terms of the series do we need to add in order to approximate the sum of the series to within 0.01?