Assignment # 11.
Due April 7, 17:00

Problem 1.   Find all $p > 0$ such that the following series is convergent.

    a. $\displaystyle\sum_{n=2}^{\infty} \frac{1}{n(\ln n)^p}$
        b. $\displaystyle\sum_{n=2}^{\infty} \frac{(-1)^n}{n(\ln n)^p}$

Problem 2.   Does the following series converge?

    a. $\displaystyle\sum_{n=1}^{\infty} (-1)^n \ln \frac{2n^2}{(n+10)^2}$
        b. $\displaystyle\sum_{n=1}^{\infty} n^{-1/2} \sin\left(\frac{1}{\sqrt{n}}\right)$

    c. $\displaystyle\sum_{n=1}^{\infty} \left(\frac{\arctan n}{\pi}\right)^n$
        d. $\displaystyle\sum_{n=2}^{\infty} \frac{n^n}{n!}$