SI Session: August 7th , 2008
Mondays – Thursdays
12:35 PM – 2:05 PM
Room 1229

Prof. Stockton : Calculus II
Summer II 2008
SI Leader : Neil Jody

[1] Determine if each series is *absolutely* convergent, *conditionally* convergent, or divergent. Indicate the convergence tests used.

(a) $\sum_{n=1}^{\infty} (-1)^n \frac{(n-1)^3}{n^5 + 2n^2}$

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

(c) $\sum_{n=1}^{\infty} \frac{\arctan n}{n^2 - 7}$

(d) $\sum_{n=1}^{\infty} \frac{\sqrt{3n^2 - 2}}{n + 4}$

(e) $\sum_{n=1}^{\infty} \frac{\sqrt[3]{n^2-1}}{n^2+3}$

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

(g) $\sum_{n=1}^{\infty}(-1)^{n+1}\frac{\sqrt{n+4}}{2n-1}$

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

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

(j) $\sum_{n=1}^{\infty}(-1)^n \frac{(n!)^2}{(3n)!}$

[2] Determine if each series is *absolutely* convergent, *conditionally* convergent, or divergent. Indicate the convergence tests used.

(a) $\displaystyle\sum_{n=0}^{\infty} \frac{(n!)^2}{(3n)!}$

(b) $\displaystyle\sum_{n=0}^{\infty} \frac{(-1)^n \, 2^{4n}}{(2n+1)!}$

[3] Find the interval of convergence of each power series.

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

(b) $\sum_{n=0}^{\infty} \frac{(-2)^n}{n+4} x^n$