SI Session: August 6th , 2008
Mondays – Thursdays
12:35 PM – 2:05 PM
Room 1229

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

[1] Determine the convergence or divergence of the series and identify the test that was used.

(a) $\sum_{n=1}^{\infty} \frac{5}{n+\sqrt{n^2+4}}$

(b) $\sum_{n=1}^{\infty} \frac{4^n}{3^n - 1}$

(c) $\sum_{n=2}^{\infty} \frac{1}{n\sqrt[3]{(\ln n)^2}}$

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

(e) $\sum_{n=1}^{\infty} \ln\left(\frac{n+1}{n}\right)$

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

(g) $\sum_{n=2}^{\infty} \frac{\ln n}{n^3}$

(h) $\sum_{n=1}^{\infty} \left(\frac{n+1}{n} \right)^n$

(i) $\sum_{n=0}^{\infty} \frac{3^n}{4^n + 5}$

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

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

(l) $\sum_{n=1}^{\infty} \frac{1}{\sqrt{n^3+1}}$

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

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

(a) $\sum_{n=0}^{\infty} \frac{(-1)^n}{\sqrt{n+4}}$

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

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

(d) $\sum_{n=1}^{\infty} \frac{(-1)^{n+1}(2n+3)}{n+10}$

(e) $\sum_{n=1}^{\infty} \frac{(-1)^{n+1} \ln(n+1)}{n+1}$

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

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