SI Session: August 4th , 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 sequence with the given *n*th tern. If the sequence converges find its limit.

(a) $a_n = e^{-n}$

(b) $a_n = (-1)^n \sqrt[n]{n}$

(c) $a_n = (-1)^n \dfrac{n}{n+1}$

[2] Find the sum of the convergent series.

(a) $\sum_{n=1}^{\infty} \frac{8}{(n+1)(n+2)}$

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

(c) $\sum_{n=0}^{\infty} 2\left(-\frac{2}{3}\right)^n$

(d) $\sum_{n=0}^{\infty} 6\left(\frac{4}{5}\right)^n$

[3] Determine the convergence or divergence of the series.

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

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

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

(d) $\sum_{n=0}^{\infty} \frac{1}{4^n}$

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

(f) $\sum_{n=1}^{\infty} e^{-n}$

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

(h) $\sum_{n=2}^{\infty} \frac{1}{n\sqrt{\ln n}}$

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

(j) $\sum_{n=1}^{\infty} \frac{\ln(n+1)}{1+\ln(n^3)}$