MATH 102-13 (112)
QUIZ # 6(Take-Home)

NAME: ..... ID. #: . . . . . .

Q1. Find the sum of the following sereis:

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

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

Q2. Determine whether the following series converge:

i) $\sum_{n=1}^{\infty}\frac{2^n}{n^{99}}$

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

Q3. Determine whether the following sereis converge absolutely or conditionally, or diverge:

i) $\sum_{k=1}^{\infty}\frac{(-1)^k\tan^{-1}k}{k^3}$

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