

May 18, 2009

QUIZ#4 Math102, sec 5-25-3

Net Time Allowed: 35 minutes

Name:

ID # :

section:

Exercise1:

Evaluate the integral $\int \frac{1}{1 - \sin x + \cos x}$ [Hint: you may use the substitution $t = \tan \frac{x}{2}$].

solution:

Exercise2:

Determine whether the Sequence $\left\{ \frac{\sin(3n)}{3n+1} \right\}_{n=1}^{+\infty}$ converges or diverges. If it converges, find its limit.

solution:

Exercise3:

Determine whether the following series are convergent or divergent. Justify your answer.

a)- $\sum_{n=1}^{\infty} n \sin \frac{1}{n}$

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

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