Calculus II, Section K
Quiz # 4
September 17th, 2008

First Name : _____

Last Name : _____

1. Determine whether the following series converge
   (Indicate which criterion is used)

$$\sum \frac{k^{k/2}}{k!}$$

2. Indicate whether the following series is absolutely convergent or conditionally convergent. *(Indicate which criterion is used and check carefully that the conditions for this criterion are satisfied !)*

$$\sum \frac{(-1)^k}{\ln(k+2)} =$$

3. Find the radius of convergence of

$$\sum_{k=1}^{\infty} \frac{k^k}{k!} x^k$$

4. Give the power series representation of $f(x) = (1+x)^{-2}$

(Hint : see f as the derivative of a known series)

$$f(x) \; = \;$$

5. Give the power series representation of

$$\int_0^x \frac{e^t - e^{-t}}{2t} \, dt$$