Name: _____ **Quiz 5**

Math 152 Calculus II – Crawford **28 April 2015**

Books, notes (in any form), and calculators are not allowed. *Show all your work.* Good Luck!

1. (9 pts) Determine whether the following **series** converge or diverge. **[Show all your work and clearly indicate any tests that you use.]**

(a). $\displaystyle\sum_{n=1}^{\infty} \frac{n!}{n^2 3^n}$

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

2. (6 pts) Determine whether the following **series** converges absolutely, converges conditionally, or diverges. [**Show all your work and clearly indicate any tests that you use.**]

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