Name: _____ **Quiz 4**

Math 152 Calculus II – Crawford **10 November 2016**

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

1. (6 pts) Given $\sum_{n=1}^{\infty}(-1)^n \frac{3}{4+2n}$,

(a). Determine whether the series converges or diverges.

(b). If it converges, how many terms of the series do we need to add for the error to be less than $0.01 = \frac{1}{100}$?

2. (9 pts) Determine whether the following series converge or diverge. Show all work and clearly indicate any tests you use.

(a). $\displaystyle\sum_{n=1}^{\infty}\left(\frac{5-n}{2n+1}\right)^{3n}$

(b). $\displaystyle\sum_{n=1}^{\infty}\frac{n+3}{5n^2-2n}$

(c). $\displaystyle\sum_{n=1}^{\infty}\frac{n3^n}{n!}$