Name_____

Mathematics 248 Quiz 7 (Due 4/3/07)

Determine if the following series are convergent or divergent. Show all work (no credit, even for a correct answer, if no work or explanation is provided).

1. $\displaystyle\sum_{n=1}^{\infty} \frac{n^2 - n}{4n^3 + 1}$

2. $\displaystyle\sum_{n=1}^{\infty} \left(\frac{4n^2 - 1}{3n^2 + 6}\right)^n$

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

(Turn over)

4. $\sum_{n=1}^{\infty} n \left(\frac{1}{2}\right)^n$

5. $\sum_{n=4}^{\infty} (-1)^n \frac{n^2}{n-1}$

6. $\sum_{n=1}^{\infty} \cos n$