

Calc II Problem sheet

Friday, July 9

1. Quickly determine whether each of the following series converges or diverges:

(a) $\sum \frac{2^n n^2}{n!}$

(b) $\sum \frac{n^2 + 4n - 2}{n^3 + 4n^2 - 3n + 7}$

2. Determine whether

$$\sum \frac{2^n + n^2}{3^n}$$

converges or diverges. Fully justify your assertion with the limit comparison test.

3. Use the ratio test determine whether $\sum n \left(\frac{2}{3}\right)^n$ converges or diverges.

4. Determine whether $\sum \frac{n! \times n!}{(2n)!}$ converges or diverges.