

MA 2733

Worksheet 1 – October 29, 2012

Name _____

1. Reindex $\sum_{n=1}^{\infty} \frac{2^{n-1}}{n!}$ to be a sum of the form $\sum_{n=0}^{\infty} a_n$.

2. (a) Write a series summing the even summands of $\sum_{n=1}^{\infty} \frac{1}{n}$. I.e., find $\sum_{n=1}^{\infty} a_n = \frac{1}{2} + \frac{1}{4} + \dots$

(b) Write a series $\sum_{n=1}^{\infty} b_n = 1 + \frac{1}{3} + \frac{1}{5} + \dots$ (the odd summands of $\sum_{n=1}^{\infty} \frac{1}{n}$).

3. Explain why your series from 2a and 2b diverge.