

MA 2733

Worksheet 9 – November 8, 2013

Name _____

1. For what values of x does it make sense to define $f(x) = \sum_{n=1}^{\infty} \frac{x^n}{n \cdot 2^n}$.

2. Discuss convergence of $\sum_{k=0}^{\infty} \frac{1}{k + \sqrt{k} - 1}$.

3. Discuss convergence of $\sum_{n=0}^{\infty} \frac{n}{4^n}$. (Hint: $4^n = 2^n \cdot 2^n$).

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

5. In 1-3 sentences, explain the relationship between the Direct Comparison Test and the Monotone Convergence Theorem.