Prof. Alexandru Suciu

MTH 1125 **Calculus 3** **Spring 2002**

QUIZ 5

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1. [5 points] Decide whether the following series converges or diverges. In either case, indicate which test you are using, and justify your answer carefully.

$$\sum_{n=1}^{\infty} \frac{1}{\sqrt{3n-1}}$$

2. [5 points] Decide whether the following series converges or diverges. In either case, indicate which test you are using, and justify your answer carefully.

$$\sum_{n=1}^{\infty} \frac{3}{n^2+1}$$

3. [5 points] Decide whether the following series converges or diverges. In either case, indicate which test you are using, and justify your answer carefully.

$$\sum_{n=1}^{\infty} \frac{n!}{100^n}$$

4. [5 points] Decide whether the following series converges or diverges. In either case, indicate which test you are using, and justify your answer carefully.

$$\sum_{n=1}^{\infty} \frac{2^n n^n}{(3n+1)^n}$$