

Math 3100 Quiz 8

Name _____

1. (3 points) Evaluate

$$\sum_{n=2}^{\infty} \frac{5}{3^n}$$

2. (a) (3 points) Carefully state both the *(Direct) Comparison Test* and the *Limit Comparison Test* (in the case where the limit L exists and satisfies $L > 0$) for series of non-negative terms.

- (b) (4 points) Use either of these test to determine the convergence or divergence of the following series:

i.

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

ii.

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