

Name: \_\_\_\_\_  
MAT 296

Quiz 10: Series Tests  
Fall 2017

**Problem 1:** Determine whether the following series converges or diverges. If it converges, find the sum. If it diverges, prove it.

$$\sum_{n=1}^{\infty} \frac{5n^2 + 1}{4n^2 - 1}$$

**Problem 2:** Determine whether the following series converges or diverges. If it converges, find the sum. If it diverges, prove it.

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

**Problem 3:** Determine whether the following series converges or diverges. Prove your answer.

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