Quiz 4 **Name:** _____

Series: Integral and Comparison Tests

Math 408D:

Instructor: Athil George

Problem 1. Find the convergent value of the sum.

$$\sum_{n=1}^{\infty} \frac{8}{n^2 + 4n + 3}$$

Problem 2. Prove that the harmonic series diverges using any of the tests you have learned so far. Recall that the harmonic series is defined in the following way:

$$a_n = \sum_{n=a}^{\infty} \frac{1}{n}$$