

Name: _____
Student ID: _____

Quiz 4

This quiz is graded out of 12 marks. No books, graphing calculators, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. (4 marks each) Determine if the series converges or diverges, justify by applying the correct test. If the series converges, find the sum.

1.

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

2.

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

3.

$$\sum_{n=1}^{\infty} \left[\frac{1}{n} - \frac{1}{n+1} \right]$$