Name: _____

Student ID: _____

Quiz 10

This quiz is graded out of 10 marks. No books, 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. *(3 marks)* §8.1 #21 Determine whether the sequence converges or diverges. If it converges, find the limit.

$$a_n = \frac{\cos^2 n}{2^n}$$

Question 2. *(2 marks)* §8.2 #18 Determine whether the series is convergent or divergent. If it is convergent, find its sum.

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

Question 3. *(5 marks)* §8.2 #19 Determine whether the series is convergent or divergent by expressing S_n as a telescoping sum. If it is convergent, find its sum.

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