Dawson College: **Calculus II** (SCIENCE): 201-NYB-05-S09: Winter 2013

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. *(2 marks)* §8.1 #5 Find a formula for the general term a_n of the sequence, assuming that the pattern of the first few terms continues.

$$\left\{-3, 2, -\frac{4}{3}, \frac{8}{9}, -\frac{16}{27}, \ldots\right\}$$

Question 2. *(4 marks)* §8.1 #24 Determine whether the sequence converges or diverges. If it converges, find the limit.

$$a_n = \ln(n+1) - \ln n$$

Question 3. *(4 marks)* §8.1 #23 Determine whether the sequence converges or diverges. If it converges, find the limit.

$$\{n^2 e^{-n}\}$$