

Name: \_\_\_\_\_  
Student ID: \_\_\_\_\_

## Quiz 8

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.** (5 marks) §3.7 #34 Find the limit.

$$\lim_{x \rightarrow \infty} \left(1 + \frac{a}{x}\right)^{bx}$$

**Question 2.** (5 marks) §6.6 #32 Determine if the integral is convergent or divergent. Evaluate those that are convergent.

$$\int_0^1 \frac{\ln x}{\sqrt{x}} dx$$