

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

## Quiz 7

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) §6.3 #20 Evaluate the indefinite integral.

$$\int \frac{x^2 - 5x + 16}{(2x + 1)(x - 2)^2} dx$$

**Question 2.** (5 marks) §6.6 #32 Evaluate the definite integral.

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

**Bonus Question.** (5 marks) Prove: If  $a$  and  $b$  are positive numbers then

$$\int_0^1 x^a(1-x)^b dx = \int_0^1 x^b(1-x)^a dx$$