

Name: _____
Student ID: _____

Quiz 3

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) §5.1 #3b Estimate the area under the graph of $f(x) = 1/x$ from $x = 1$ to $x = 5$ using four rectangles and left endpoints. Sketch the curve and approximating rectangles. Is your estimate an underestimate or an overestimate?

Question 2. (5 marks) §5.2 #23 Use only the definition of the definite integral to evaluate:

$$\int_1^2 x^3 dx$$