

Name: _____
Student ID: _____

Quiz 9

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) §7.2 #18 The region enclosed by the given curves is rotated about the specified line. Find the volume of the resulting solid.

$$y = x^3, y = \sqrt{x}; \text{ about } y = 1$$

Question 2. (5 marks) §7.3 #26 Set up an integral for the volume of the solid obtained by rotating the region bounded by the given curves about the specified axis.

$$x = 4, x^2 - y^2 = 7; \text{ about } y = 5$$

Question 3. (5 marks) Evaluate the indefinite integral

$$\int \frac{x^3 + x^2 + 2}{x^3 + x^2 + x} dx$$