Name: _____

Student ID: _____

Bonus Quiz 1

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. §7.3 #20 *(5 marks)*

Use the shell method to set up and evaluate the integral that gives the volume of the solid generated by revolving the plane region about the *x*-axis

$$y = \sqrt{x+2}, \; y = x, \; y = 0.$$

Question 2. §7.4 #7 *(5 marks)*
Find the arc length of the graph of the function

$$y = \frac{x^5}{10} + \frac{1}{6x^3}$$

over the interval $[1,2]$.