

Math 105 Quiz 8

§5.6-5.7, 5.3

Name:

Show all work for credit.

Toolbox:

$$\sum_{i=1}^n 1 = n, \sum_{i=1}^n i = \frac{n(n+1)}{2}, \sum_{i=1}^n i^2 = \frac{n(n+1)(2n+1)}{6}, \sum_{i=1}^n i^3 = \left(\frac{n(n+1)}{2}\right)^2$$

1. Using infinite Riemann Sums, $\int_a^b f(x)dx = \lim_{n \rightarrow \infty} \sum_{i=1}^n f(x_i^*)\Delta x$, determine the following area.

$$\int_0^2 x^3 + 2x^2 - 1$$

Verify your answer using the FTC.