

MA 2320: Quiz 2

Name: _____

1. Calculate the following antiderivatives:

(a) $\int \sin(x) \cos^2(x) dx$

(b) $\int \sec^2(x) e^{\tan(x)} dx$

2. Compute $\sum_{k=1}^{1000} 2k^2 - 3k$

3. Let $f(x) = x + 1$ over the interval $[1, 6]$. Let $n = 5$.

- (a) Graph the function with n regions. Label the important points on the graph.
- (b) Compute the LH rule Riemann sum.
- (c) Compute the RH rule Riemann sum.

4. Using the **definition** of the integral compute

$$\int_0^4 3 - x^2 dx.$$