

You have 20 minutes to complete the quiz. No calculators.

Name: \_\_\_\_\_

1. (2 points) Let  $f(x) = \frac{x^2}{3} + \sin x + e^{2x}$ . Find an antiderivative  $F(x)$  of  $f(x)$  satisfying  $F(0) = 0$ .

2. (3 points) Let  $g(x) = x^2 + 1$ . Compute the following integral using the method of Riemann sums:

$$\int_0^1 g(x) dx$$

You may use the fact that  $1^2 + 2^2 + \dots + n^2 = \frac{n(n+1)(2n+1)}{6}$ .