

Name \_\_\_\_\_ Date \_\_\_\_\_

Math 2 — Quiz 1

1. Compute the derivative of  $f(x) = e^{5x} \sin(3x)$ . (3 pts.)

2. Let  $F(x)$  be the antiderivative of  $f(x) = 4x^2 - 8x^{-4} + 2$  with  $F(1) = 3$ . Find  $F(x)$ . (4 pts.)

3. (a) Estimate the area under the curve of the function  $f(x) = \frac{1}{x}$  on the interval  $[1, 2]$  using the left endpoint method with 4 rectangles. (4 pts.)  
(b) Is this an underestimate or an overestimate? (1 pt.)