

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

**MA 2320 Quiz 1**

1. Compute the following derivatives.

(a)  $\frac{d}{dx} \left[ 3x^3 - e^{x^2+1} + \frac{5}{x} \right]$

(b)  $\frac{d}{dx} \left[ \sqrt{e^x - \ln(x)} \right]$

(c)  $\frac{d}{dx} \left[ e^{x^2+1} \tan(3x - 1) \right]$

2. Compute the following (without a calculator).

(a)  $\cos(\pi/2)$

(b)  $\sin(\pi/3)$

(c)  $\tan(7\pi/3)$

(d)  $\sec(7\pi/4)$

(e)  $\arccos(1)$

(f)  $\arccos(\sqrt{2}/2)$  in the range  $[0, 2\pi]$

3. Do the following:

(a) Compute the Riemann sum approximation of  $\int_1^3 2x^2 + 1$  with  $n = 3$ .

(b) Compute  $\int_1^3 2x^2 + 1$  by using the definition of the integral.