

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

Due: MM/DD

MAT 999

HW 1

**Problem 1**

This problem has several parts:

- (a) The first part.
- (b) The second part.
- (c) The third part.

**Problem 2**

For each of the following below, determine which option is correct.

- (i) a)  $2 \cdot 2 = 4$       b)  $x^3 = x \cdot x$       c)  $\sin x = \cos x$       d)  $\sin x^2 = \sin^2 x$
- (ii) a)  $2 \cdot 2 = 4$       b)  $x^3 = x \cdot x$       c)  $\sin x = \cos x$       d)  $\sin x^2 = \sin^2 x$

**Problem 3**

Compute the following integral:

$$\int e^{-x^2} dx$$