MATH 222 SPRING 2017

EXAM 3

Your name:

Recitation instructor name:

Recitation time:

Problem	1	2	3	4	Total
Grade					

Problem 1. (25 pts) Compute the integral

$$\iint_D (x-y)dxdy,$$

where

$$D = \{(x,y) \mid -2 \leq x \leq 2,\ x^2 \leq y \leq 4\}.$$

Problem 2. (25 pts) Find the area of the region enclosed by the curve

$$r = \sin(2\theta), \quad 0 \leq \theta \leq \pi/2.$$

Problem 3. (25 pts) Find the center of mass of the region

$$R = \{(x, y) \,|\, 0 \leq x \leq 1,\, 0 \leq y \leq 2\}$$

with the density

$$\rho(x, y) = x^2 + y^2.$$

Problem 4. (25 pts) Find the volume of the solid that lies between the paraboloid

$$2x^2 + 2y^2 = z$$

and the plane

$$z = 10.$$