

Show all work. 5 points each.

1) Evaluate dz given:

$$f(x, y) = x^2 + 3xy + y^2; x = 4, y = -2, dx = .02, dy = -.03$$

2) Evaluate the integral

$$\int_0^2 \int_0^{x^2} (x^2 + 2y) dy dx$$