Math 001D Assignment 15.3   Ans_____

Instructions: Write complete solutions to the following problems in the space provided. Be sure to supply all the necessary steps that lead to your answers

1.   Evaluate the iterated integral   Ans_____

$$\int_0^1 \int_{x^2}^{x} (9+18y)\,dy\,dx$$

2.   Evaluate the double integral   Ans_____

$$\iint_D \frac{4y}{7x^5+1}\,dA, \ D = \{(x, y)\,|\,0 \le x \le 1, \ 0 \le y \le x^2\}$$

3.   Evaluate the double integral.   Ans_____

$$\iint\limits_{D} xy\, dA \ , \quad \text{D is the triangular region with vertices } (0, 0), (1, 2), \text{ and } (0, 3)$$

4.   Find the volume of the given solid enclosed by the paraboloid   Ans_____
$z = 3x^2 + 4y^2$ and the planes $x = 0, \ y = 3, \ y = x, \ z = 0$