

1. (5 points) Let D be the region bounded by the y -axis and the parabola $x = -9y^2 + 4$. Set up the iterated integral of

$$\iint_D 3 \cos(y) e^{xy-x^2+y^3} dx dy$$

in both ways. You DO NOT need to evaluate it.

2. (5 points) Let D be the region bounded by the x -axis ($0 \leq x \leq \pi/2$), y -axis and $y = \cos(x)$. Set up the iterated integral of

$$\iint_D \ln \left(\cos \left(\frac{x+y}{3\pi} \right) \right) dx dy$$

in both ways. You DO NOT need to evaluate it.

3. (5 points) Let W be the region bounded by $z = 0$, $x = 0$, $x = 1$, $y = 0$, $y = 1$, and $z = x^2 + y^2$. Please write a double integral formula **AND** a triple integral formula to compute the volume of W . You can use any order you want and you DON'T need to evaluate the formulas.

4. (5 points) Change the order of integration, and evaluate it in that order.

$$\int_0^1 \int_0^{x^2} (x+y) dy dx.$$