Assignment 12

1. Evaluate the iterated integral.

(a) $\displaystyle\int_1^3 \int_0^y \frac{4}{x^2+y^2}\, dxdy$

(b) $\displaystyle\int_0^2 \int_{y^2}^4 \sqrt{x}\sin x\, dxdy$

(c) $\displaystyle\int_0^{\ln(10)} \int_{e^x}^{10} \frac{1}{\ln y}\, dydx$

(d) $\displaystyle\int_R \int -2y\, dA\ ,\ R:\ y = 4-x^2, y = 4-x$

2. Change the order of integration.

$$\int_{-1}^2 \int_0^{e^{-x}} f(x,y)\, dydx$$

3. Find the average value of $f(x,y)$ over the plane region R.

$$f(x,y) = e^{x+y}, R : \text{triangle with vertices } (0,0), (0,1), (1,1)$$