

Show all work. 5 points each.

1. Draw the rectangle you are integrating over and calculate $\int_1^4 \int_1^2 \frac{x}{y} + \frac{y}{x} dy dx$

2. Draw the region D you are integrating over and evaluate $\iint_D y^2 dA$ where $D = \{(x, y) \mid -1 \leq y \leq 1, -y - 2 \leq x \leq y\}$.