

Show all work. 5 points each.

1) Evaluate the double integral $\int_1^4 \int_1^2 \frac{x}{y} + \frac{y}{x} dx dy$.

2) Find the limits of integration for $\iint_D x \cos(y) dA$ if D is the region bounded by $y = 0$, $y = x^2$ and $x = 1$.