

Section 15.1: Additional Problems

1. Evaluate the double integral where $R = [0, 3] \times [1, 5]$

$$\iint_R (x + 3y^2) dA$$

2. If $R = [0, \ln(2)] \times [0, \ln(5)]$, evaluate

$$\iint_R e^{2x-y} dA$$

3. Find the volume of the solid lying under the plane $2x + 6y - z + 1 = 0$ on the region $R = [-1, 0] \times [1, 4]$

4. Evaluate the double integral where $R = [0, 2] \times [0, 1]$

$$\iint_R \frac{x}{1 + xy} dA$$

5. Evaluate the double integral where $R = [0, 2] \times [-4, 4]$

$$\iint_R \frac{xy^2}{1 + x^2} dA$$