MTH 265, Quiz #7, Summer 2024 Name _____

**Instructions**: Show all work. Use exact answers unless otherwise asked to round.

1. Evaluate the integral $\int_1^3 \int_1^5 \frac{\ln y}{xy} dydx$.

2. Evaluate $\int\int_R (x^2 + 2y)dA$ over the region $R$ bounded by $y = x, y = x^3, x \geq 0$.

3. Find the volume of the solid bounded by $y = 1 - x^2,\ y = x^2 - 1,\ x + y + z = 2,$ $2x + 2y - z = 10$. Write a double integral and then evaluate it. Sketch the region in the plane.