Q1. Calculate the iterated integral \( \int_1^1 \int_1^4 \left( \frac{x}{y} + \frac{y}{x} \right) dy \, dx \)

Q2. Find the volume of the solid lying under the elliptic paraboloid \( \frac{x^2}{4} + \frac{y^2}{9} + z = 1 \) and above the rectangle \( R = [-1,1] \times [-2,2] \)

Q3. Find the volume of the solid under the plane \( 3x + 2y - z = 0 \) and above the region enclosed by the parabolas \( y = x^2 \) and \( x = y^2 \)

Q4. Evaluate \( \int_0^1 \int_{x^2}^1 \sqrt{y} \sin y \, dy \, dx \)

Q5. Find the volume of the solid bounded by the two paraboloids \( z = 6 - x^2 - y^2 \) and \( z = 2x^2 + 2y^2 \)