1. Evaluate the integral $\iint_R (x+y) dA$ where R is the region in the xy-plane bounded by the lines y = 0 and x = 1 and by the curve $y = x^2$. (6 points)

2. Evaluate the integral $\int_0^1 \int_y^1 e^{x^2} dx dy$. [Suggestion: consider reversing the order of integration.] (7 points)

3. Evaluate the integral $\iint_R (x^2 + y^2)^{3/2} dA$ where R is the disk of radius 2 centered at the origin in the xy-plane. (7 points)