Quiz 3

NAME:

Question 1

Let D be the set of (x, y) given by $4x^2 + 9y^2 \leq 1$.

Transform the integral $\int \int_D x^2 dx dy$ to an integral in u and v using the change of variables $u = 2x, v = 3y$. Draw a box around this integral. Then evaluate the new integral by any method you choose.

Question 2

Find the image of the rectangle given by $0 \leq s \leq 1$ and $0 \leq t \leq 2$ under the transformation $x = s + t$, $y = s - t$.