Math 2263, Quiz 10
You must show all work for full credit, you have 15 min to finish it.

1.(4 pt) Find the Jacobian of the transformation: $x = 4u + v, y = 2u - v$.

2.(5 pt) Find the image of the set S under the given transformation:
S is the square bounded by the line $u = 0, u = 1, v = 0, v = 1; x = v, y = uv$.

3.(6 pt) Use the given transformation to evaluate the integral $\iint_R x^2 dA$ where
R is the region bounded by the ellipse $9x^2 + 4y^2 = 36; x = 2u, y = 3v$.