

JACOBIAN EXERCISE

MAX

- (1) Find the Jacobian of the transformation.

$$x = uv, y = vw, z = wu$$

- (2) Compute the integral $\iint_R x^2 dA$, where R is the region bounded by the ellipse $9x^2 + 4y^2 = 36$; $x = 2u, y = 3v$

- (3) $\iint_R \cos\left(\frac{y-x}{y+x}\right) dA$, where R is the trapezoidal region