MATH 261 Quiz 11 Name: .
Student number:

Show all work. 5 points each.

1) Change to polar coordinates. Be sure to include the limits of integration.

$$\iint_R \cos(x^2 + y^2)\, dA$$

where R is the region that lies above the x-axis and within the circle $x^2+y^2 = 9$.

2) Find the Jacobian of the transformation $x = u^2 - v^2$, $y = 2uv$.