

Show all work. 5 points each.

1. Find the equation of the tangent plane for $f(x, y) = \frac{x}{x+y}$ at $(2, 1)$.

2. Use the chain rule to find $\partial z/\partial s$ and $\partial z/\partial t$ if $z = x^2y^3$, $x = s \cos(t)$ and $y = s \sin(t)$.