# Homework9

1. Find a set of parametric equations for the tangent line to the curve of intersection of the surfaces at the given point.
$$z = \sqrt{x^2 + y^2}, 5x - 2y + 3z = 22 , (3,4,5)$$
2. Find relative extrema and saddle points of the function.

$$f(x,y) = -5x^2 + 4xy - y^2 + 16x + 10$$

3. Use Lagrange multipliers to find the indicated extrema of f subject to two constraints,assuming that x, y, and z are nonnegative.
$$\text{Minimize} : f(x,y,z) = x^2 + y^2 + z^2$$
$$\text{Constraint} : x + 2z = 6, x + y = 12$$