Full name: ———————————————————— **GT ID:**——————— **Sec:**——

Quiz 5 Version C

You have 15 minutes to take the quiz. No phones, notes, or use aids of any kind is permitted.

1. (2 points) **[Linearization]**
   Give the formula for the linearization of the function $f(x,y)$ at the point $P(x_0, y_0)$.   [AN]

$$L(x,y) = \boxed{}$$

2. (8 points) **[Tangent Planes and Lines]**
   Find the equation of the line tangent to the curve of intersection of the given surfaces at the specified point. *Hint: the tangent line is in both tangent planes.*   [AJN]

$$\text{Surfaces: } xyz = 1, \quad x^2 + 2y^2 + 3z^2 = 6$$
$$\text{Point: } P(1,1,1)$$