Math 6A **Quiz 2**

Name:_____ Section Time:_____

Complete the following problems, making sure to SHOW ALL WORK. If you're stuck on something, CLEARLY EXPLAINING what you do know will get you partial credit!

1. Consider the points $A = (-2, 5, 2)$, $B = (1, 1, 1)$, and $C = (7, 4, -3)$.

   (a) Find an equation for the plane in $\mathbb{R}^3$ containing all three of these points.

   (b) Consider the point $p = (1, 2, 3)$. What is the distance between the plane found in part (a) and the point p? If you did not find the plane in part (a), you may do this problem using the plane $ax + by + cz = C$.

2. Find the following limits or show that they don't exist.

(a) $\lim_{t \to 0} \left\langle 17, 1 + \sqrt{t} \right\rangle$

(b) $\lim_{t \to 2} \left\langle t^2 + t, \frac{1}{t-2}, 1 \right\rangle$

(c) $\lim_{(x,y) \to (1,1)} \frac{xy}{x^2 + y^2}$

(d) $\lim_{(x,y) \to (0,0)} \frac{xy}{x^2 + y^2}$