

## QUIZ 4 - MATH 251

Friday, February 12

YOUR NAME: \_\_\_\_\_

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Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Find the equation of the plane containing the lines  $\mathbf{r}_1(t) = \langle 1, 2, 3 \rangle + t\langle -1, 2, -2 \rangle$  and  $\mathbf{r}_2(t) = \langle 1, 2, 3 \rangle + t\langle 3, 1, 1 \rangle$ .

2. Find the intersection of the plane  $2x + 3y + 5z = 29$  with the line  $\mathbf{r}(t) = \langle 0, 0, 1 \rangle + t\langle 2, 5, 1 \rangle$ .

3. Find a system of parametric equations for the line of intersection of the two planes  $x+y+z = 1$  and  $2x + y + 4z = 2$ .

4. Find the distance of the point  $P_0 = (-1, -1, 0)$  from the plane  $x + 3y + 5z = 15$ .