MATH 102 - SECTION 5 Bilkent University 2023-2024 Spring

Full Name: Student Number: Department:

QUIZ 3

Consider the intersecting lines

 $\begin{array}{ll} L_1: x = t, & y = 3 - 3t & z = -2 - t, & -\infty < t < \infty \\ L_2: x = 1 + s, & y = 4 + s, & z = -1 + s & -\infty < s < \infty \end{array}$

(a) (2 pts) Write two vectors $\mathbf{v_1}$ and $\mathbf{v_2}$ which are parallel to L_1 and L_2 , respectively.

(b) (3 pts) Calculate the cross-product $\mathbf{v_1} \times \mathbf{v_2}$.

(c) (5 pts) Write an equation of the plane containing the lines L_1 and L_2 .