# MATH 251 – QUIZ 2

**Question 1:** *(5 points)*

Determine if the following two lines $L_1$ and $L_2$ are parallel, skew, or intersecting. In case they intersect, indicate the point(s) of intersection.

$$L_1 : \begin{cases} x(t) = 2 + t \\ y(t) = 3 - 2t \\ z(t) = 1 - 3t \end{cases} \qquad L_2 : \begin{cases} x(s) = 3 + s \\ y(s) = -4 + 3s \\ z(s) = 2 - 7s \end{cases}$$

**Question 2:** *(5 points)*

Find the equation of the plane going through $(1, 0, 4)$ and containing the line parametrized by $\mathbf{r}(t) = \langle 3 + 4t, 5 - t, 2 + t \rangle$

Please use $(1, 0, 4)$ as your point when finding the equation of the plane.

(If you're lost, there is a problem similar to this in the lecture notes)

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