Ex: Find the equation of the line passing through $P(2,0,-3)$ and $Q(-1,4,2)$.

Ex: Find the distance between $P(0,1,2)$ and the line

$$L\begin{cases} x = 2 + t \\ y = 6 - 2t \\ z = 1 - 2t \end{cases}$$

Ex: Do the lines

$$L_1\begin{cases} x = 2t \\ y = 3 + t \\ z = 1 + 2t \end{cases} \qquad L_2\begin{cases} x = 4 + \tau \\ y = -2 - 3\tau \\ z = 3 + 2\tau \end{cases}$$

intersect?

Ex: Find the closest distance between

$$L_1 \begin{cases} x = 2t \\ y = 3 + t \\ z = 1 + 2t \end{cases} \qquad L_2 \begin{cases} x = 4 + \tau \\ y = -2 - 3\tau \\ z = 3 + 2\tau \end{cases}$$

Ex: Find the equation of the plane through the point $A(4,1,-2)$ and is perpendicular to the line:

$$\frac{x+1}{2} = \frac{y}{3} = \frac{z-1}{-5}$$

Ex: Find the equation of the plane through $A(1,1,-2)$, $B(3,-1,0)$ and $C(2,1,2)$.

Ex: Determine if the planes $2x - 3y + z = 1$ and $x + 4y + 10z = 2$ are parallel, perpendicular or neither.

Ex: Find the angle between the planes $x + 2y - 2z = 5$ and $6x - 3y + 2z = 8$.

Ex: Find the distance of $P(-2,3,-5)$ from the plane $2x + y + 4z = 6$.