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MATH 4305

Challenge 1

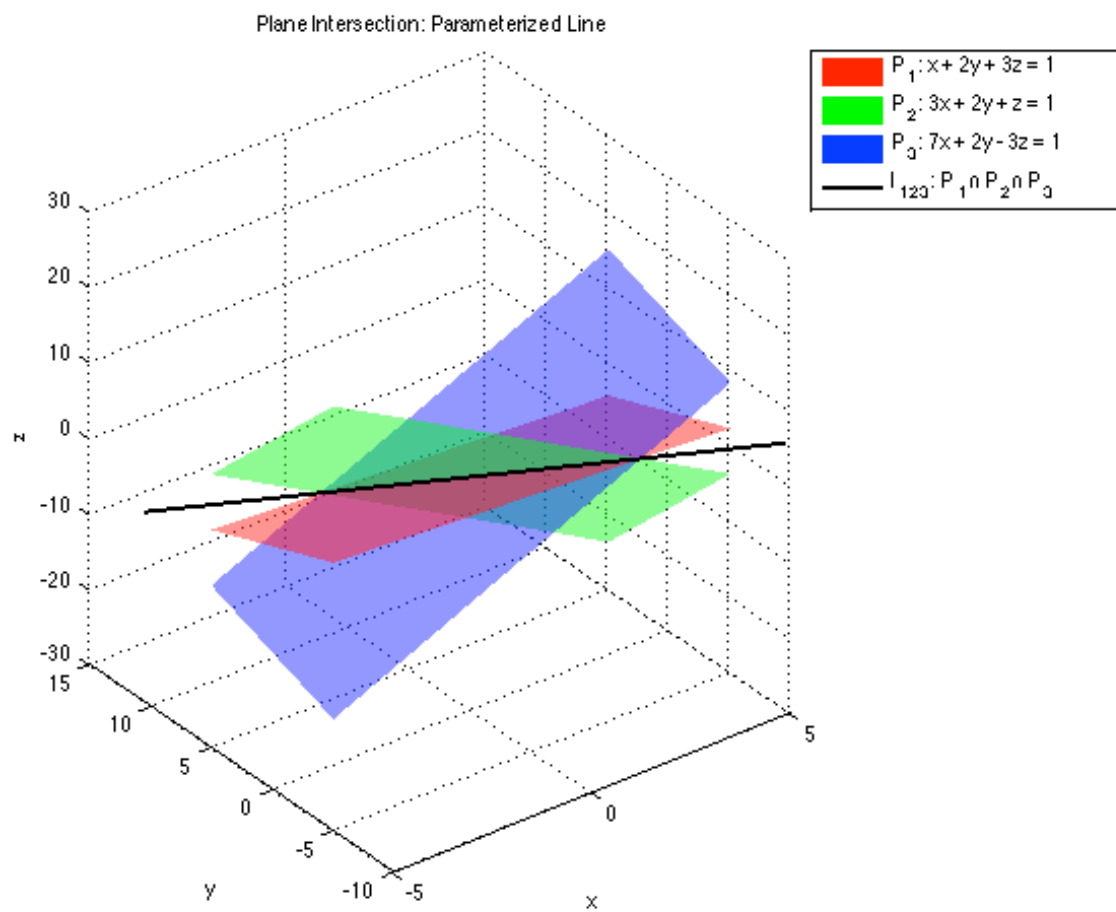
System of equations:

$$\begin{aligned}x + 2y + 3z &= 1 \\3x + 2y + z &= 1 \\7x + 2y - 3z &= 1\end{aligned}$$

Equation of intersecting line:

I_{123} :

$$\begin{pmatrix} x \\ y \\ z \end{pmatrix} = \begin{pmatrix} 0 \\ 1 \\ 2 \\ 0 \end{pmatrix} + \begin{pmatrix} t \\ 2t \\ t \end{pmatrix}$$



System of equations:

$$\begin{aligned}x + 2y + 3z &= 1 \\x + 3y + 4z &= 3 \\x + 4y + 5z &= 4\end{aligned}$$

Equations of intersecting lines:

I_{12} :

$$\begin{pmatrix} x \\ y \\ z \end{pmatrix} = \begin{pmatrix} -3 \\ 2 \\ 0 \end{pmatrix} + \begin{pmatrix} -t \\ t \\ t \end{pmatrix}$$

I_{13} :

$$\begin{pmatrix} x \\ y \\ z \end{pmatrix} = \begin{pmatrix} -2 \\ \frac{3}{2} \\ 0 \end{pmatrix} + \begin{pmatrix} -t \\ -t \\ t \end{pmatrix}$$

I_{23} :

$$\begin{pmatrix} x \\ y \\ z \end{pmatrix} = \begin{pmatrix} 0 \\ 1 \\ 0 \end{pmatrix} + \begin{pmatrix} -t \\ -t \\ t \end{pmatrix}$$

