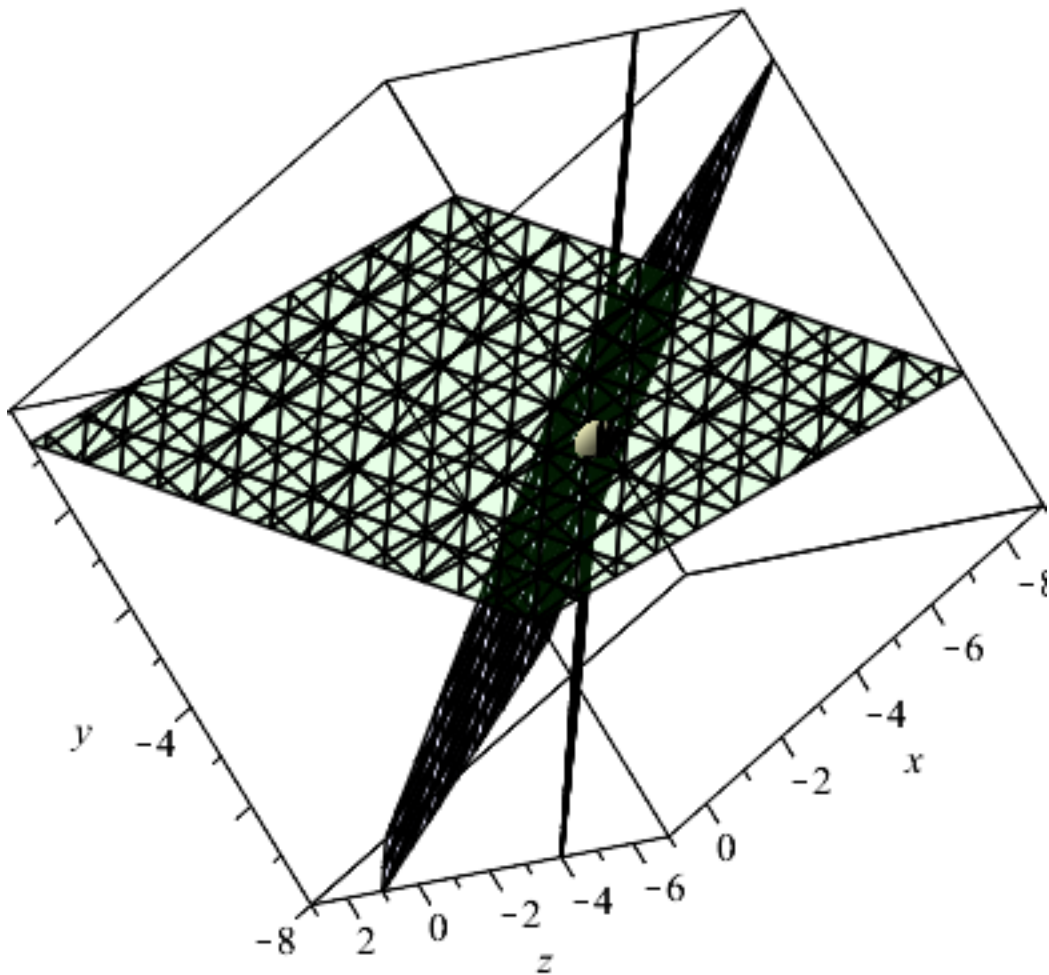


```

with(LinearAlgebra) :
with(plots) :
plot1 := implicitplot3d([x + y + z = -11, 2·x + 4·y + 2·z = -28, -x + 6·y - 3·z = -2], x = -9..1,
y = -8..2, z = -7..3, color = [red, blue, green], transparency = [.9, .9, .9]) :% :
mypoint := pointplot3d({[-4, -3, -4]}, symbol = solidcircle, symbolsize = 40) :% :
display([plot1, mypoint])

```



$A := \langle \langle 1, 2, -1 \rangle | \langle 1, 4, 6 \rangle | \langle 1, 2, -3 \rangle | \langle -11, -28, -2 \rangle \rangle$

$$A := \begin{bmatrix} 1 & 1 & 1 & -11 \\ 2 & 4 & 2 & -28 \\ -1 & 6 & -3 & -2 \end{bmatrix} \quad (1)$$

$\text{ReducedRowEchelonForm}(A)$

$$\begin{bmatrix} 1 & 0 & 0 & -4 \\ 0 & 1 & 0 & -3 \\ 0 & 0 & 1 & -4 \end{bmatrix} \quad (2)$$

$A2 := \text{RowOperation}(A, [2, 1], -2)$

$$A2 := \begin{bmatrix} 1 & 1 & 1 & -11 \\ 0 & 2 & 0 & -6 \\ -1 & 6 & -3 & -2 \end{bmatrix} \quad (3)$$

*plot2 := implicitplot3d([x + y + z = -11, 2·y = -6, -x + 6·y - 3·z = -2], x = -9 .. 1, y = -8 .. 2, z = -7 .. 3, color = [red, blue, green], transparency = [.9, .9, .9]) : %:*  
*A3 := RowOperation(A2, [3, 1], 1)*

$$A3 := \begin{bmatrix} 1 & 1 & 1 & -11 \\ 0 & 2 & 0 & -6 \\ 0 & 7 & -2 & -13 \end{bmatrix} \quad (4)$$

*plot3 := implicitplot3d([x + y + z = -11, 2·y = -6, 7·y - 2·z = -13], x = -9 .. 1, y = -8 .. 2, z = -7 .. 3, color = [red, blue, green], transparency = [.9, .9, .9]) : %:*  
*A4 := RowOperation(A3, 2,  $\frac{1}{2}$ )*

$$A4 := \begin{bmatrix} 1 & 1 & 1 & -11 \\ 0 & 1 & 0 & -3 \\ 0 & 7 & -2 & -13 \end{bmatrix} \quad (5)$$

*A5 := RowOperation(A4, [3, 2], -7)*

$$A5 := \begin{bmatrix} 1 & 1 & 1 & -11 \\ 0 & 1 & 0 & -3 \\ 0 & 0 & -2 & 8 \end{bmatrix} \quad (6)$$

*A5a := RowOperation(A5, 3,  $-\frac{1}{2}$ )*

$$A5a := \begin{bmatrix} 1 & 1 & 1 & -11 \\ 0 & 1 & 0 & -3 \\ 0 & 0 & 1 & -4 \end{bmatrix} \quad (7)$$

*plot4 := implicitplot3d([x + y + z = -11, y = -3, z = -4], x = -9 .. 1, y = -8 .. 2, z = -7 .. 3, color = [red, blue, green], transparency = [.9, .9, .9]) : %:*  
*A6 := RowOperation(A5a, [1, 2], -1)*

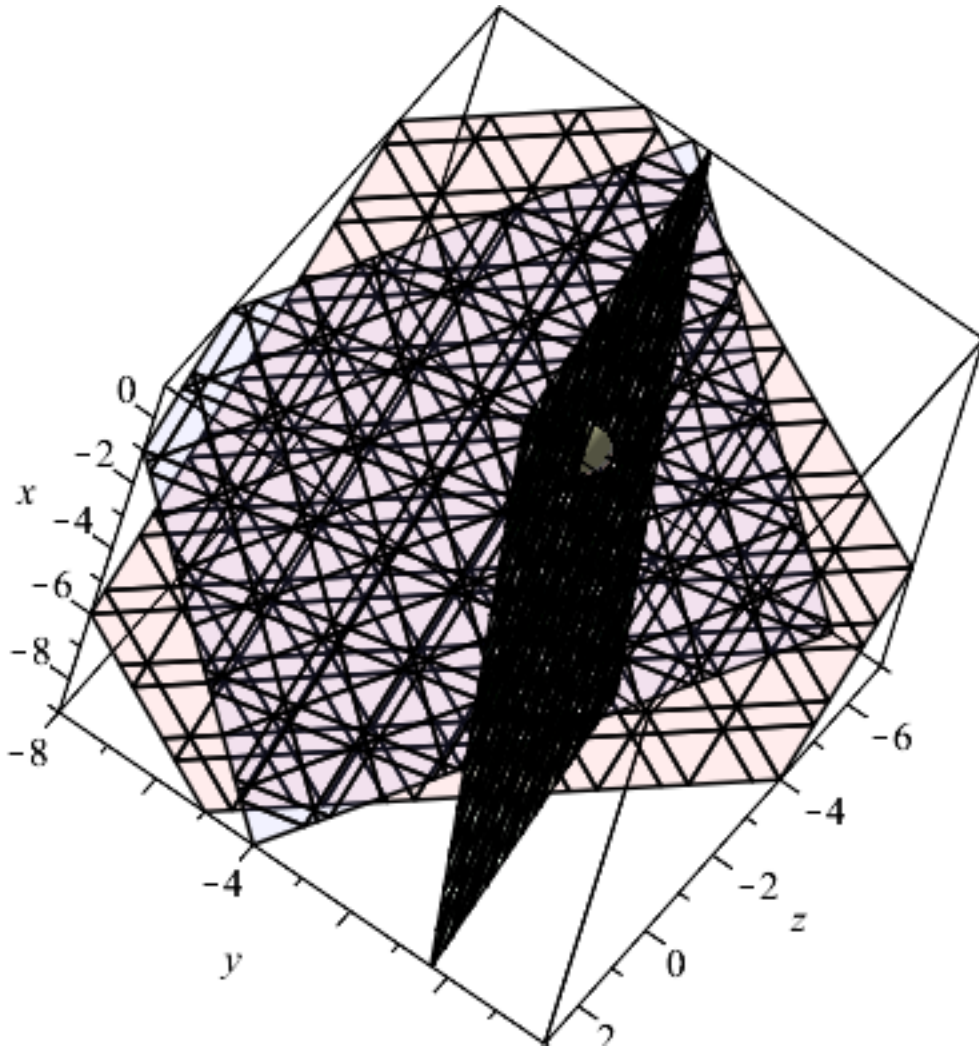
$$A6 := \begin{bmatrix} 1 & 0 & 1 & -8 \\ 0 & 1 & 0 & -3 \\ 0 & 0 & 1 & -4 \end{bmatrix} \quad (8)$$

*A7 := RowOperation(A6, [1, 3], -1)*

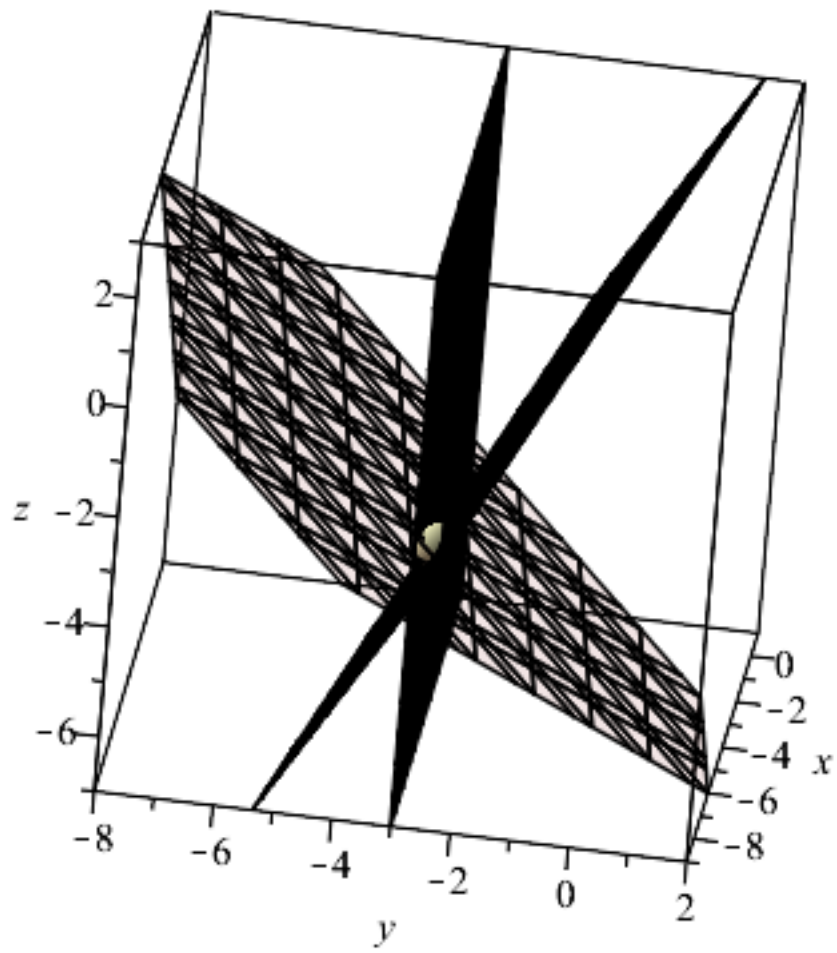
$$A7 := \begin{bmatrix} 1 & 0 & 0 & -4 \\ 0 & 1 & 0 & -3 \\ 0 & 0 & 1 & -4 \end{bmatrix} \quad (9)$$

*plot5 := implicitplot3d([x = -4, y = -3, z = -4], x = -9 .. 1, y = -8 .. 2, z = -7 .. 3, color = [red, blue, green], transparency = [.9, .9, .9]) : %:*

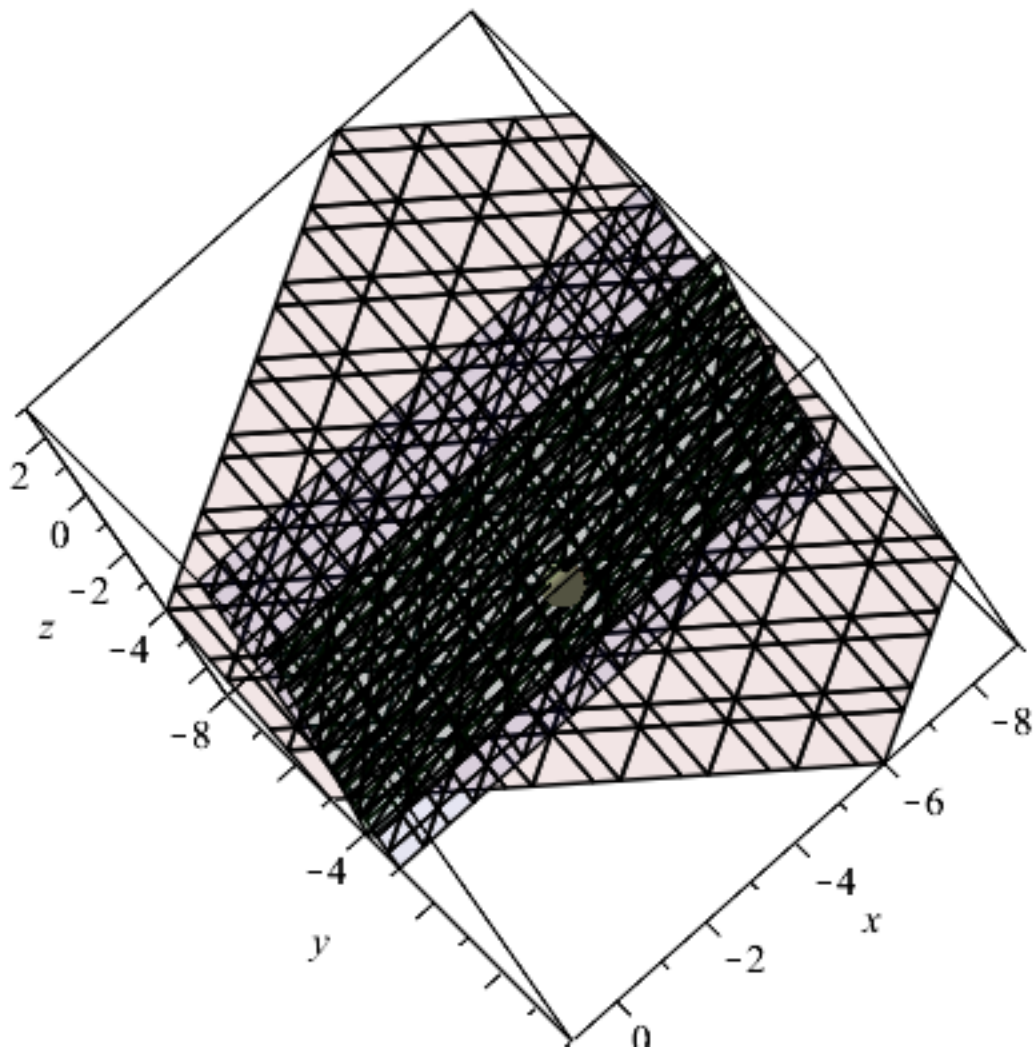
`display([plot1, mypoint])`



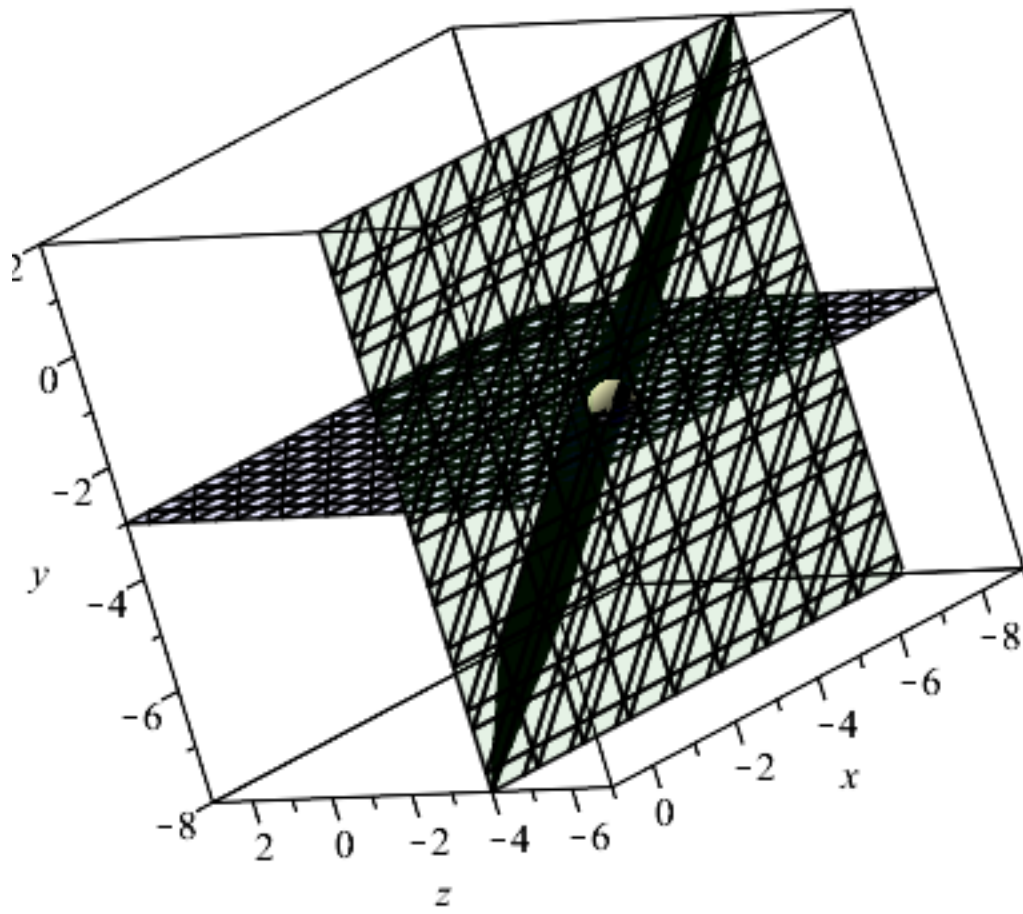
`display([plot2, mypoint])`



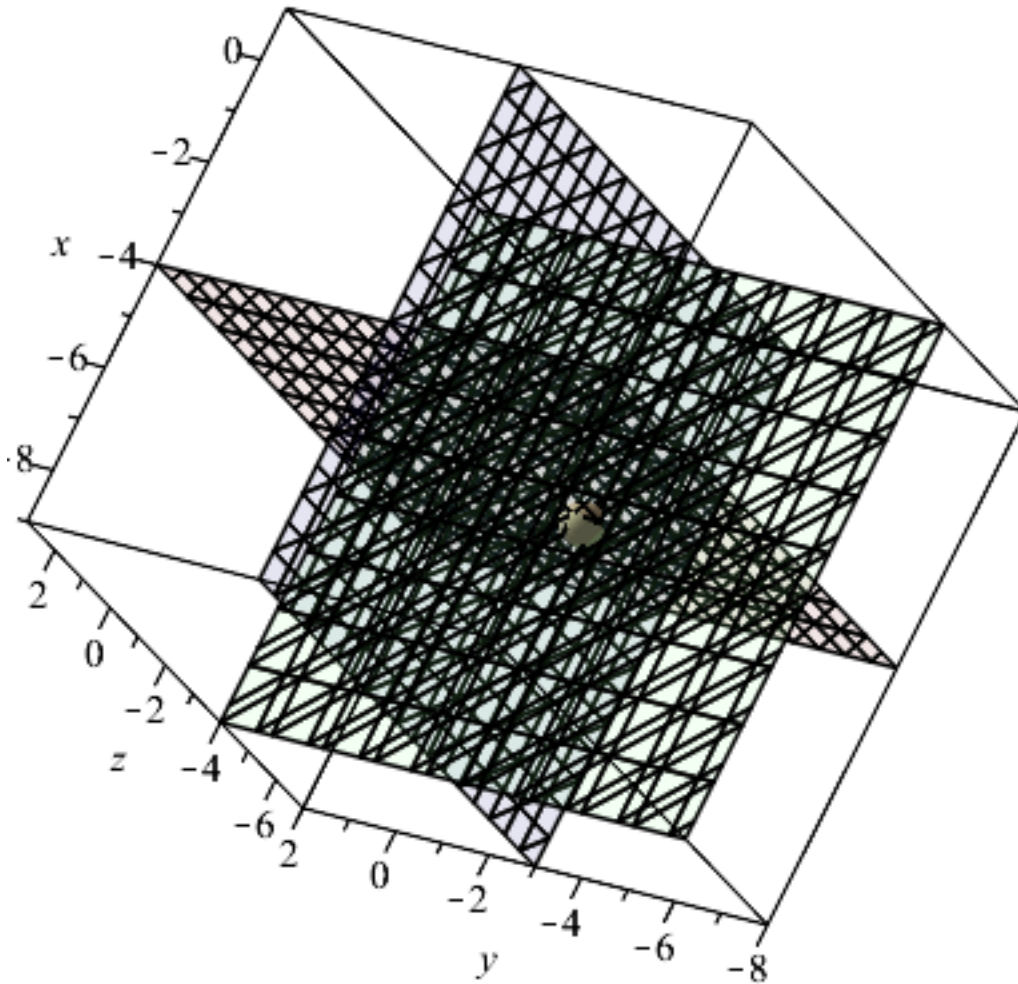
`display([plot3, mypoint])`



`display([plot4, mypoint])`



`display([plot5, mypoint])`



$$\frac{.035}{4}$$

$$0.008750000000$$

**(10)**

$$10000 \cdot \left(1 + \frac{.035}{4}\right)^{4 \cdot 6}$$

$$12325.51701$$

**(11)**

$$10000 \cdot (1 + .00875)^{24}$$

$$12325.51701$$

**(12)**