

Übungen in AlgGeo \diamond Exercices en AlgGéo \diamond T. E1 \diamond II / 3

Probl. 1
$$\left| \begin{array}{rcl} \lambda \cdot x - 5x + 6z + 7w & = & 8 \\ 4x - 8y + 9z + w & = & 1 \\ x + y - z + w & = & 0 \end{array} \right|$$

(a) $\lambda = 3 \Rightarrow \mathbb{L} = ?$

(b) $\mathbb{L} = \{\} \Rightarrow \lambda = ?$

(c) $\mathbb{L} = \text{Ebene} \bullet \text{plan} \Rightarrow \lambda = ?$

Probl. 2
$$\left| \begin{array}{rcl} x + y + z + w & = & 1 \\ x + 2y + 3z + 4w & = & 2 \\ x + 4y + 9z + 16w & = & 3 \\ x + 8y + 27z + 64w & = & 4 \end{array} \right|$$

$\mathbb{L} = ?$ (Gauss-Jordan!)

Probl. 3
$$\left| \begin{array}{rcl} x + y + z + w & = & 1 \\ x + 2y + 3z + 4w & = & 2 \\ 2x + 3y + 4z + 5w & = & 3 \\ 0x + 1y + 2z + 3w & = & 1 \end{array} \right|$$

$\mathbb{L} = ?$

Probl. 4
$$\left| \begin{array}{rcl} x + y + z + w & = & 1 \\ x + 2y + 3z + 4w & = & 2 \\ 2x + 3y + 4z + 5w & = & 1 \\ 0x + 1y + 2z + 3w & = & 3 \end{array} \right|$$

$\mathbb{L} = ?$