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Tema

Tema 2 $(\mathbb{R}^3/\mathbb{R}, +, \cdot)$ $\mathbb{R}$-sp vect.

$V_1 = \{(x,y,z) \in \mathbb{R}^3 \mid 2x - y + z = 0\}$

$V_2 = \{(x,y,z) \in \mathbb{R}^3 \mid x + 2y + z = 0\}$

dem. că V_1, V_2 sunt ~~sunt~~ subsp vect ale $\mathbb{R}^3$

fie $u = (x_1, y_1, z_1) \in V_1$

$2x_1 - y_1 + z_1 = 0$

analog $v = (x_2, y_2, z_2)$

$\alpha, \beta \in \mathbb{R}$

$\alpha u + \beta v = (\underbrace{\alpha x_1 + \beta x_2}_{x}, \underbrace{\alpha y_1 + \beta y_2}_{y}, \underbrace{\alpha z_1 + \beta z_2}_{z})$

$2x - y + z = 2\alpha x_1 + 2\beta x_2 - \alpha y_1 - \beta y_2 + \alpha z_1 + \beta z_2 =$

$= \alpha(2x_1 - y_1 + z_1) + \beta(2x_2 - y_2 + z_2) =$

$= 0$

$\Rightarrow \alpha u + \beta v \in V_1 \leq \mathbb{R}^3$

analog V_2

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