

7. Să se verifice că urm. mult. sunt subsp. vet. ale lui \mathbb{R}^3/\mathbb{R} .

$$d) T = \{(a, a-b, b) \in \mathbb{R}^3 \mid a, b \in \mathbb{R}\}$$

$$\text{Fie } \vec{x}, \vec{y} \in T \Leftrightarrow \vec{x} = (a_1, a_1 - b_1, b_1); \vec{y} = (a_2, a_2 - b_2, b_2)$$

$$\alpha \vec{x} + \beta \vec{y} = \alpha(a_1, a_1 - b_1, b_1) + \beta(a_2, a_2 - b_2, b_2) =$$

$$= (\alpha a_1, \alpha(a_1 - b_1), \alpha b_1) + (\beta a_2, \beta(a_2 - b_2), \beta b_2)$$

$$= (\underbrace{\alpha a_1 + \beta a_2}_{a_1}, \underbrace{(\alpha a_1 + \beta a_2) - (\alpha b_1 + \beta b_2)}_{a_1 - b_1}, \underbrace{\alpha b_1 + \beta b_2}_{b_1}) \in T$$

$$\Rightarrow T \in \text{Sp}(\mathbb{R}^3/\mathbb{R})$$