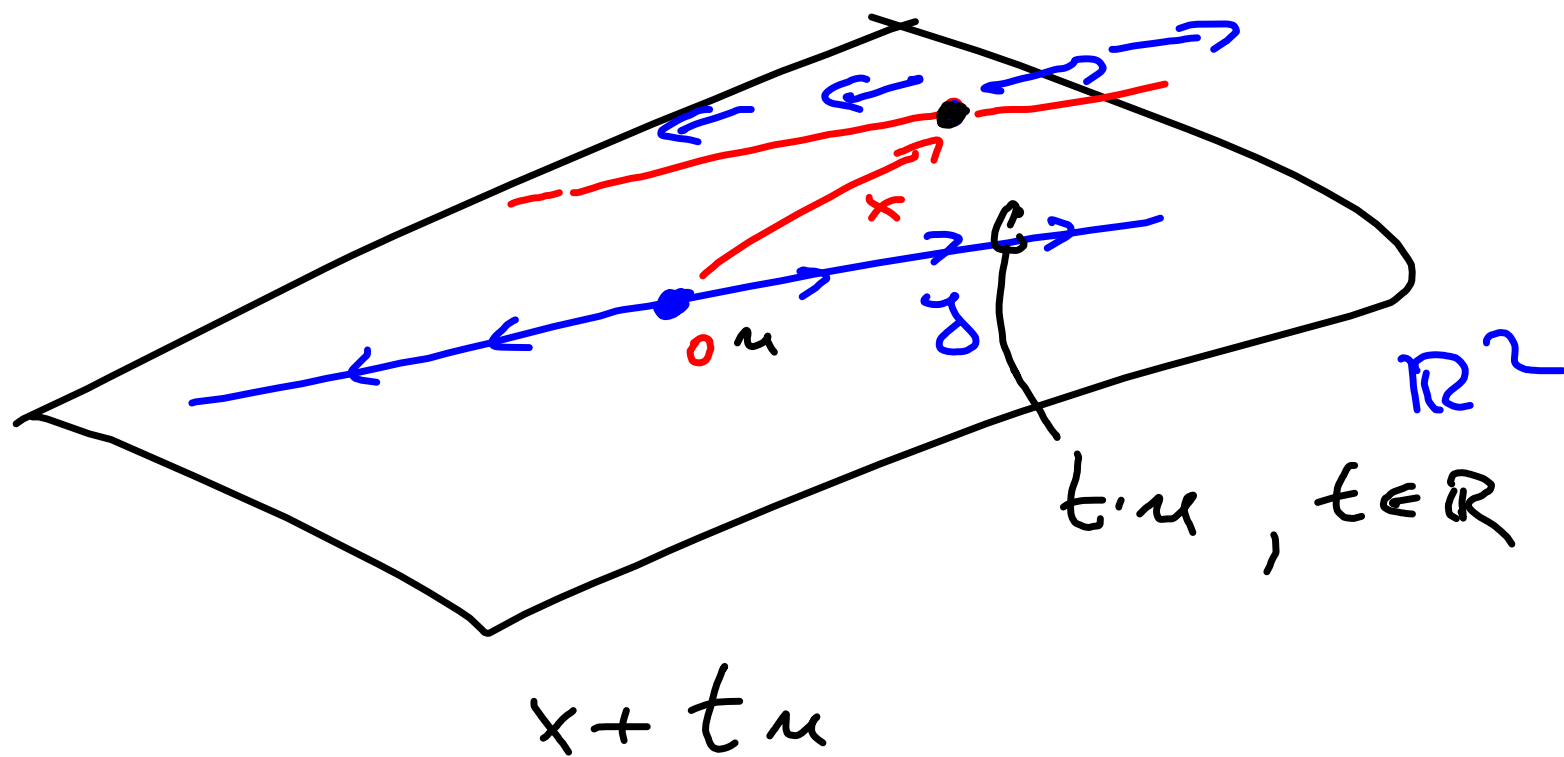




$$A \cdot x = b \quad \text{a jedno } x$$

$$A \cdot y = 0 \quad \text{a nekonečně } z$$

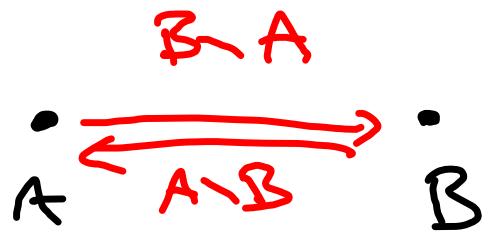


$\mathbb{R}^n = \mathcal{A}_n$  (je jako body)

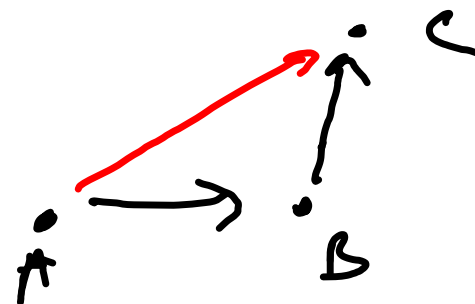
$\mathbb{R}^n$  (jako vektorový prostor)

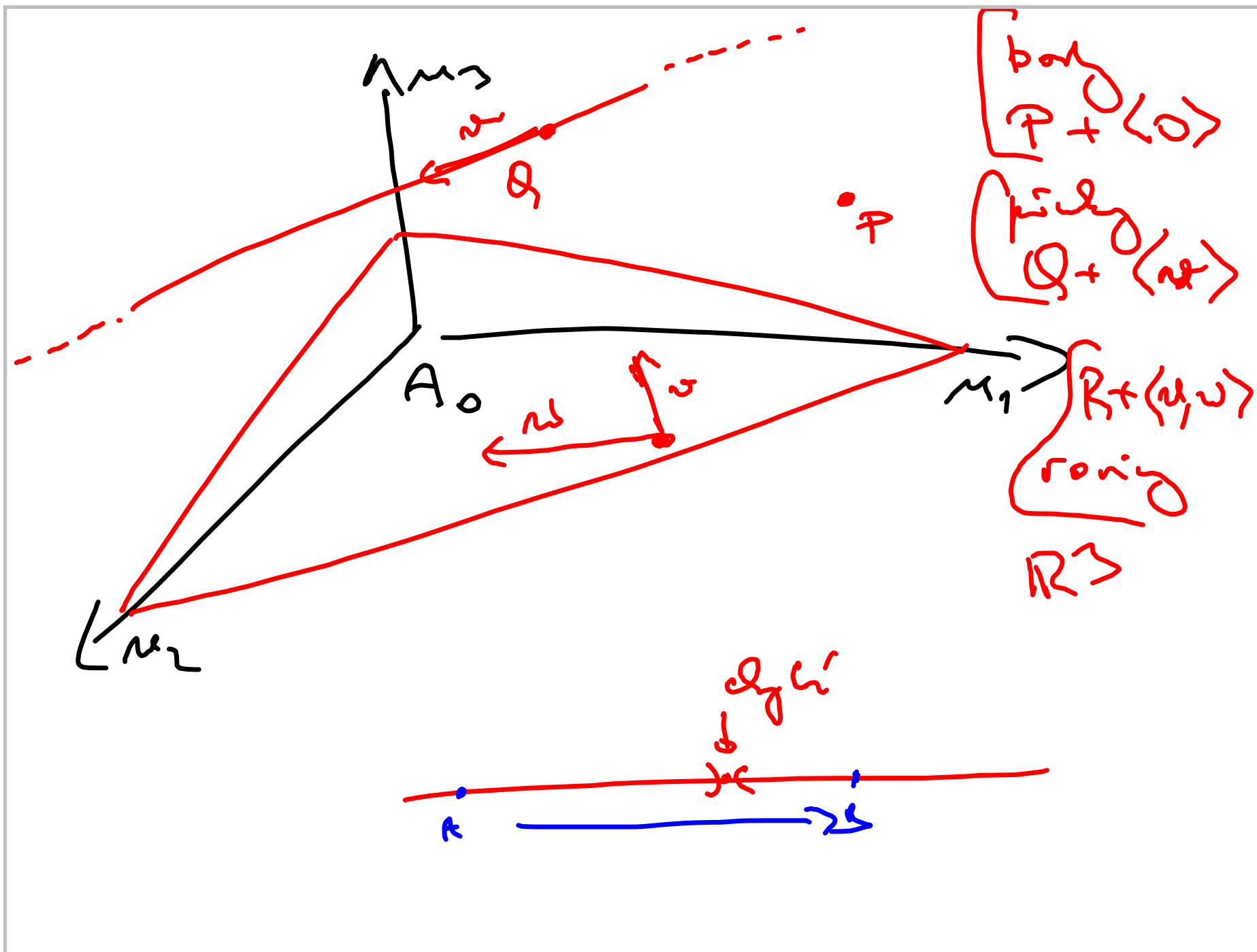
$A \in \mathcal{A}_n \quad v \in \mathbb{R}^n$   
 $\downarrow$   
 $A + v \in \mathcal{A}_n$

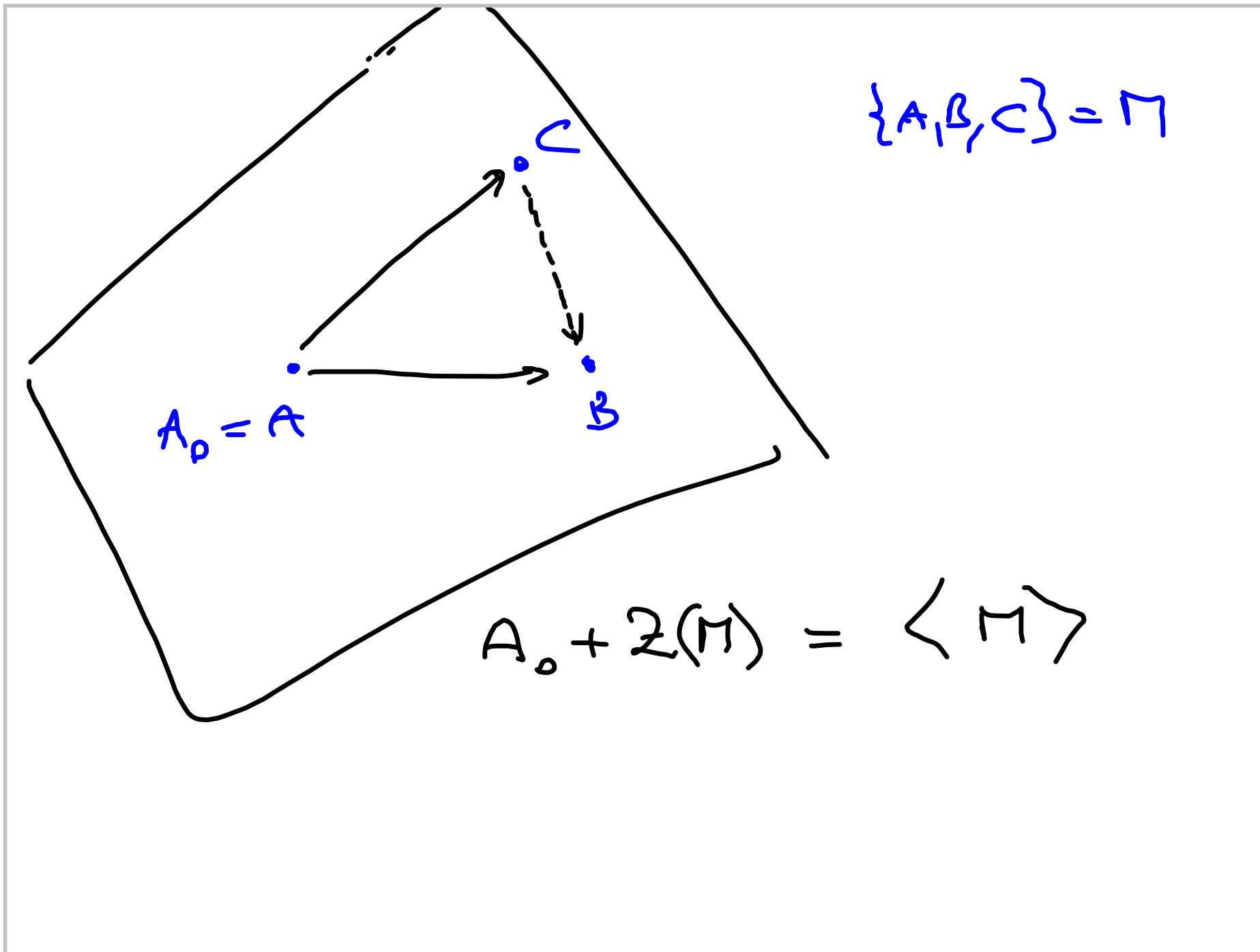
}  $\forall v \in \mathbb{R}^n$  máme  
translaci  
 $A \mapsto A + v$



$$(B - A) + (A - B) = 0$$







$$a_1 x_1 + \dots + a_n x_n = b$$

$\Rightarrow$  nadrovina

$$B \subset A, \quad B_0 + Z(B)$$

$$\langle v_1, \dots, v_k \rangle \subset V$$

$\sim$  množina  
 $(A_0, \underline{u})$

1) online  $A_0 = B_0$ ,

$\Rightarrow B$  je dno

$$\langle v_1, \dots, v_k, v_{k+1}, \dots, v_n \rangle = V$$

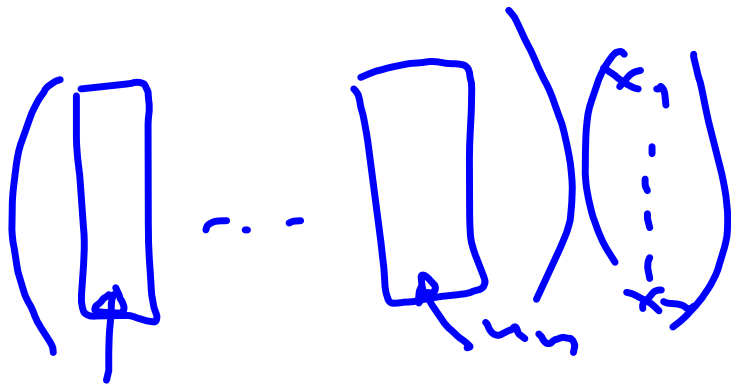
$$\begin{aligned} x_{k+1} &= 0 \\ &\vdots \\ x_n &= 0 \end{aligned}$$

$\hookrightarrow$  přeřekne  
 $\sim$  množina  
 $(A_0, \underline{u})$

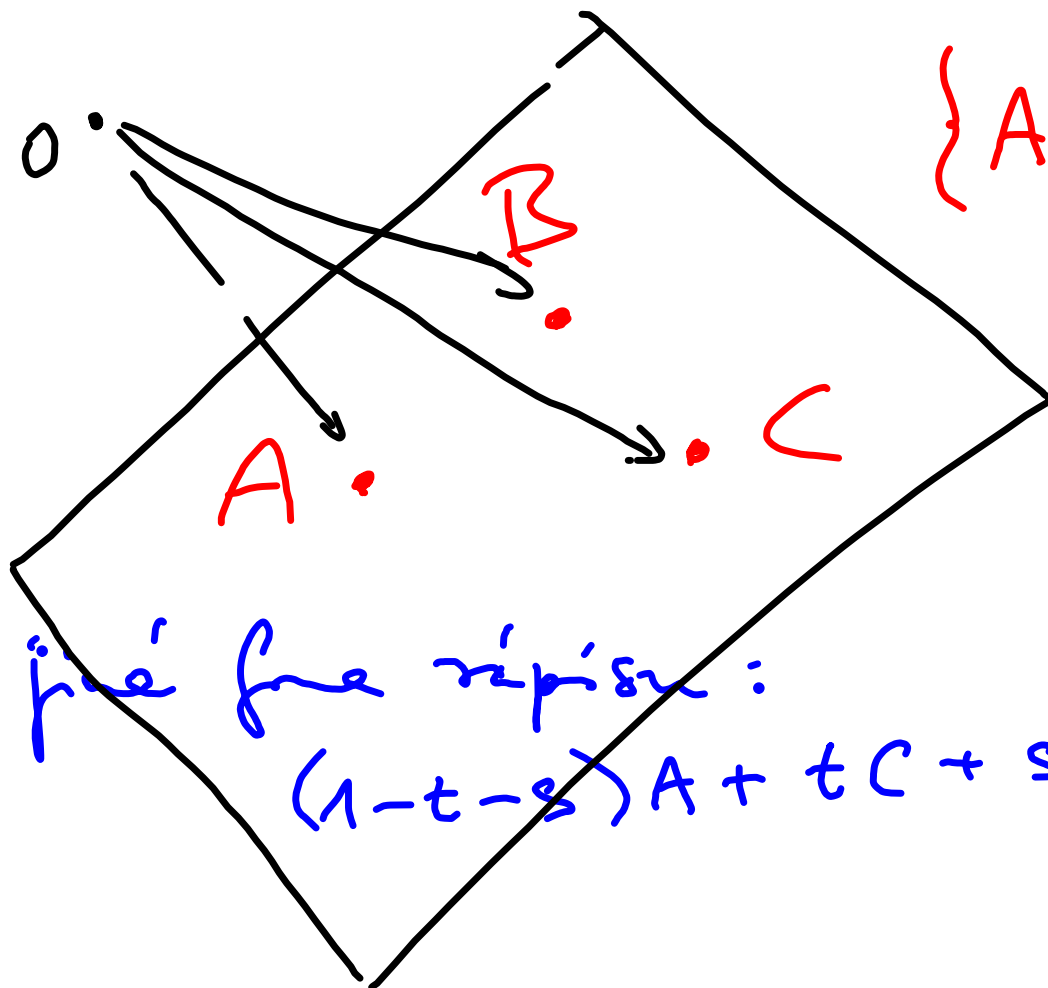
$$X = x_1 u_1 + \dots + x_n u_n$$

$$u = (u_1, \dots, u_n)$$

$$v = (v_1, \dots, v_n)$$



$$u_1 = a_{11} v_1 + a_{12} v_2 + \dots + a_{1n} v_n$$



$$\{A + t(C-A) + s(B-A)\}$$

$$= \langle \{A, B, C\} \rangle$$

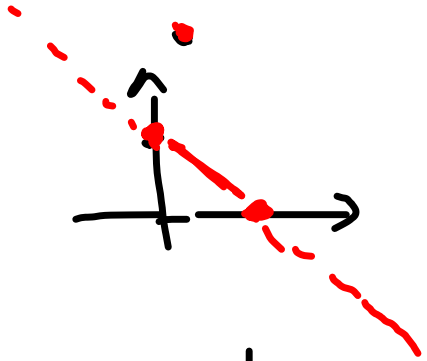
její forma zápisu:

$$(1-t-s)A + tC + sB$$

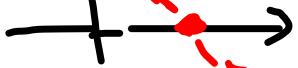


# SIMPLEX

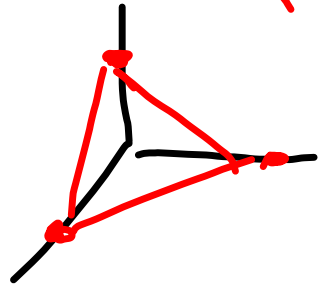
$\xi = 0$



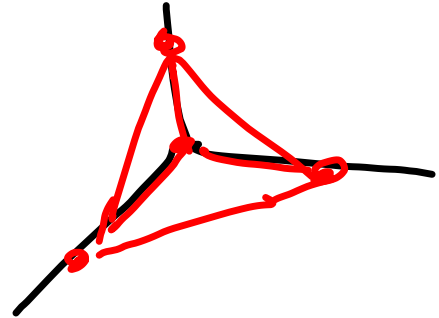
$\xi = 1$



$\xi = 2$



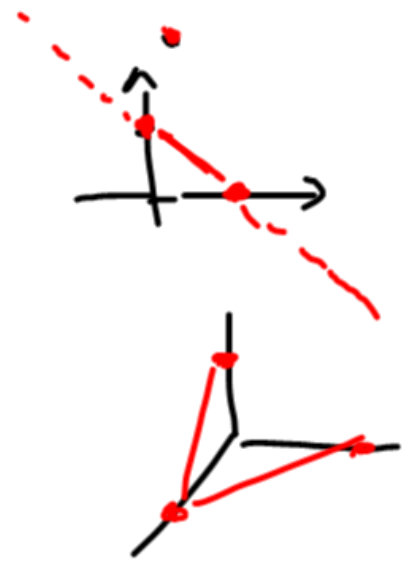
$\xi = 3$



$\xi = 0$

$\xi = 1$

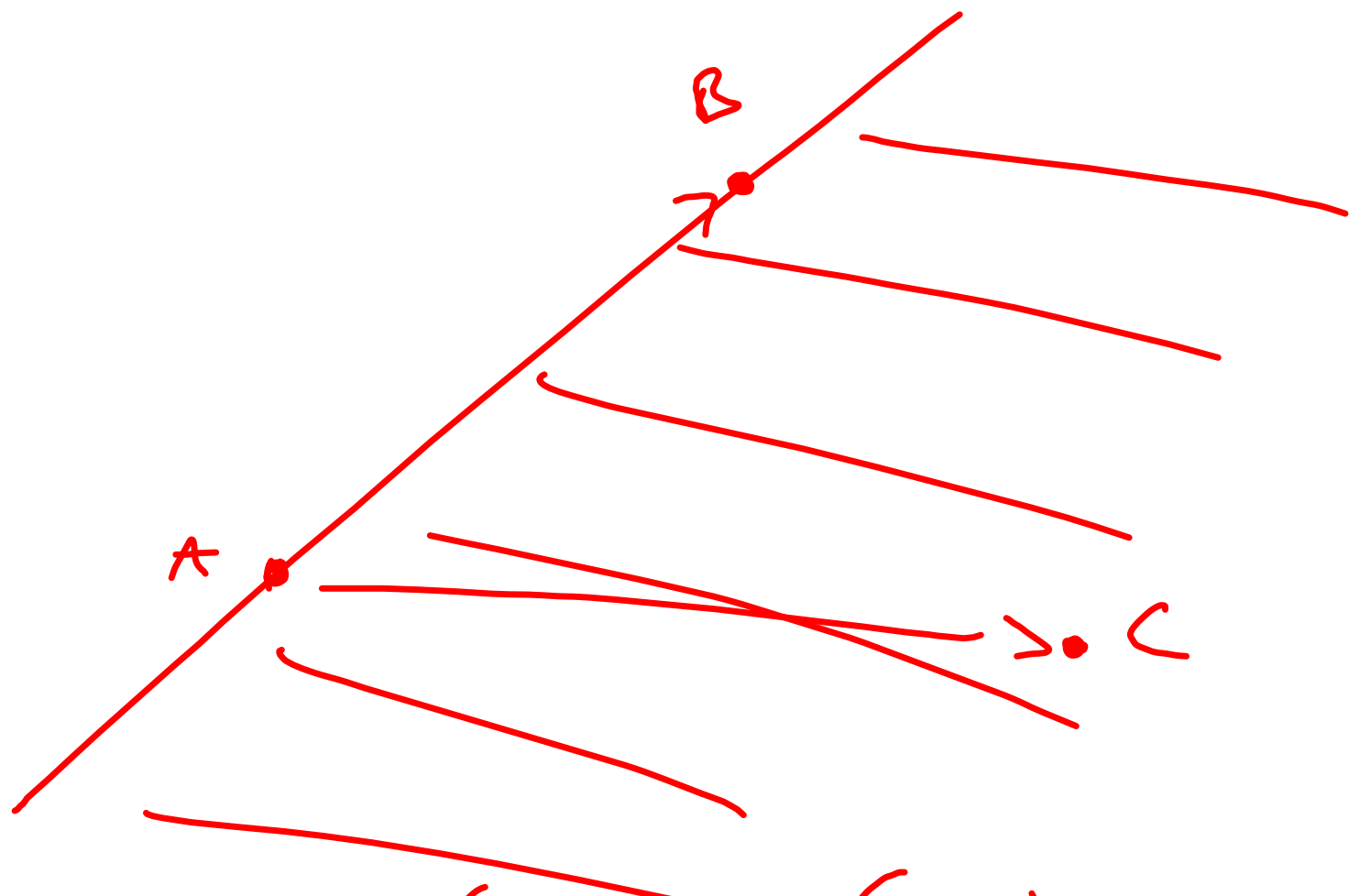
$\xi = 2$



# SIMPLEX



Přelomová

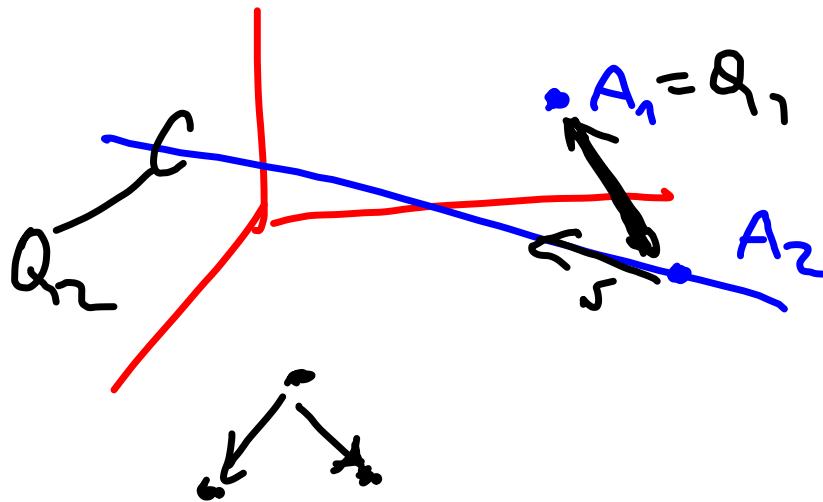
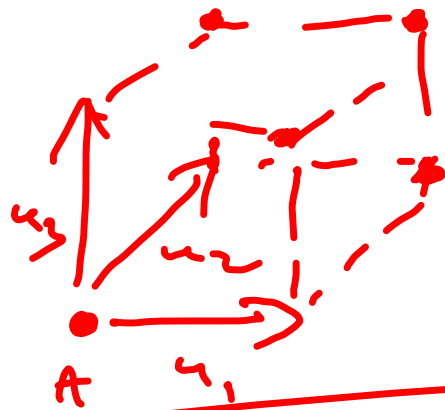


$$A + t(B - A) + s(C - A)$$
$$(1 - t - s)A + tB + sC \quad s \geq 0$$

$$A + t u_1 + s u_2 + r u_3$$



parametrizace



$$Q = A_2 + t(A_1 - A_2) + s \cdot v$$

$$\begin{pmatrix} x_1 \\ \vdots \\ x_3 \end{pmatrix} = \dots - s \dots - t \dots$$

Principy: 1)  $\text{rank}(A) \Rightarrow$  řádek

2) parametry

$$X = \begin{cases} A + t_1 u_1 + \dots + t_k u_k \\ B + s_1 v_1 + \dots + s_l v_l \end{cases}$$

Řádek  $u_1, \dots, u_k$  nebo  $v_1, \dots, v_l$

3)  $A \cdot x = b$  a parametry

$$A \cdot x = b \quad x = B + t \cdot u + s \cdot v$$

$$A \cdot (B + t \cdot u + s \cdot v) = b$$

