0'. Retro-Spettiva: - hom $\mathbb{C}$
- squadri / lunghe / lunghe / distanze / (bol) (Spazio) $\quad$ $\mathbb{R}^n_{\text{dim}}$, $\mathbb{C}^n_{\text{dim}}$, ...
- equiv MS: $\mathbb{C}$ $\quad$ $\mathbb{R}^n$
$V \leftrightarrow \mathcal{A}_{\mathbb{R}^n}(V)$ $\quad$ A spazio $\mathbb{R}^n$ $\mathbb{R}\text{-SUBSP.}$ $\quad$ $\begin{cases} \mathcal{A}^{(\mathbb{R}^n)} \longrightarrow \mathcal{V} \\ \mathcal{A}_{\mathbb{R}^n}(V) \longmapsto \{v - w \mid v, w \in A\} \end{cases}$
$A \to B \leftrightarrow B - f(A)$ $\quad$ (multiplicazione, rotazione, allungamento, traslazione)

Nuove descrizioni/elementi caratteristici:

def: $\ell_1, \ell_2 \in \mathcal{C}$ $\quad$ rette per $\mathbb{R}$ tali

$\frac{\ell_1 \cdot \ell_2}{\ell_2 \cdot \ell_2} \in \mathbb{R}$

$\frac{\ell_1 \cdot \ell_2}{\ell_2 \cdot \ell_2} = \frac{\frac{\ell_1}{\|\ell_1\|} \cdot \frac{\ell_2}{\|\ell_2\|}}{\frac{\ell_2}{\|\ell_2\|} \cdot \frac{\ell_2}{\|\ell_2\|}} \longrightarrow \exists \vec{\ell} \in \mathcal{V} \text{ t.c. } \begin{cases} \|\vec{\ell}\| = 1 \\ \frac{\ell_1}{\|\ell_1\|} \cdot \vec{\ell} = 0 \\ \frac{\ell_2}{\|\ell_2\|} \cdot \vec{\ell} = 0 \end{cases}$

$\frac{\ell_1 \cdot \ell_2}{\ell_2 \cdot \ell_2} = \frac{\ell_1}{\ell_2} \quad \begin{cases} \|\ell_1\| = \|\ell_2\| \\ \ell_1 \parallel \ell_2 \end{cases}$

$\begin{cases} \frac{\ell_1 \cdot \ell_2}{\ell_2 \cdot \ell_2} = \frac{\ell_1}{\ell_2} \\ \|\ell_1\| = \|\ell_2\| \end{cases} \Rightarrow \begin{cases} \frac{\ell_1}{\ell_2} \cdot \frac{\ell_2}{\ell_2} = \frac{\ell_1}{\ell_2} \\ \|\ell_1\| = \|\ell_2\| \end{cases} \Rightarrow \begin{cases} \frac{\ell_1}{\ell_2} = 1 \\ \|\ell_1\| = \|\ell_2\| \end{cases}$

$\Rightarrow \begin{cases} \ell_1 = \ell_2 \\ \|\ell_1\| = \|\ell_2\| \end{cases}$

$\begin{cases} \frac{\ell_1 \cdot \ell_2}{\ell_2 \cdot \ell_2} = \frac{\ell_1}{\ell_2} \\ \|\ell_1\| = \|\ell_2\| \end{cases} \Rightarrow \begin{cases} \frac{\ell_1}{\ell_2} \cdot \frac{\ell_2}{\ell_2} = \frac{\ell_1}{\ell_2} \\ \|\ell_1\| = \|\ell_2\| \end{cases} \Rightarrow \begin{cases} \frac{\ell_1}{\ell_2} = 1 \\ \|\ell_1\| = \|\ell_2\| \end{cases}$

$\Rightarrow \begin{cases} \ell_1 = \ell_2