

XIII-4

$$l \perp \begin{pmatrix} 0, 3, 4 \end{pmatrix} \\ \vec{u}$$

$$l \perp \begin{pmatrix} 3, 1, 5 \end{pmatrix} \\ \vec{v}$$

$$l \ni \underline{(2, 3, 1)}$$

\vec{w} - wektor kierunku l

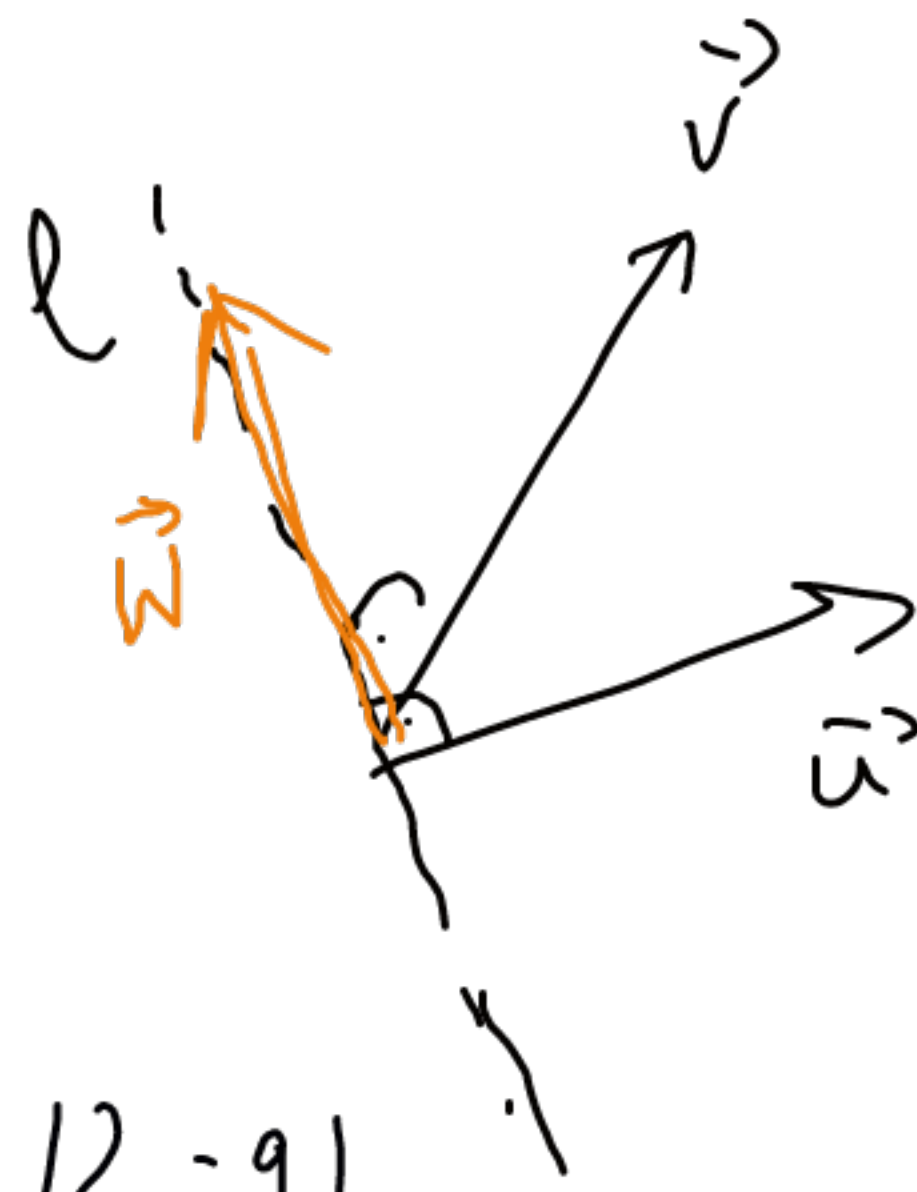
$$\vec{w} \perp \vec{u}, \vec{w} \perp \vec{v}$$

(jak w zadaniu VIII)

$$\text{Zp. } \vec{w} = \vec{u} \times \vec{v} = \begin{vmatrix} \vec{i} & \vec{j} & \vec{k} \\ 0 & 3 & 4 \\ 3 & 1 & 5 \\ \text{i} & \text{j} & \text{k} \\ \text{0} & 3 & 4 \end{vmatrix}$$

$$= 15\vec{i} + 12\vec{j} - (9\vec{k} + 4\vec{i}) =$$

$$= 11\vec{i} + 12\vec{j} - 9\vec{k} = (11, 12, -9)$$



$$\begin{cases} x = 2 + 11 \cdot t \\ y = 3 + 12 \cdot t \\ z = 1 + (-9) \cdot t \end{cases}, t \in \mathbb{R}$$

$$\begin{cases} \text{Spr. } (11, 12, -9) \cdot (0, 3, 4) = 36 - 36 = 0 \\ \quad \quad \quad -11 = 0 \cdot (3, 1, 5) = 33 + 12 - 45 = 0 \end{cases} \begin{array}{l} \vec{i} = (1, 0, 0) \\ \vec{j} = (0, 1, 0) \\ \vec{k} = (0, 0, 1) \end{array}$$