

XVI-2

$$A = (1, -3, 1)$$

$$\vec{AP} = [1, 4, 1]$$

$$\vec{AP} \times \vec{u}$$

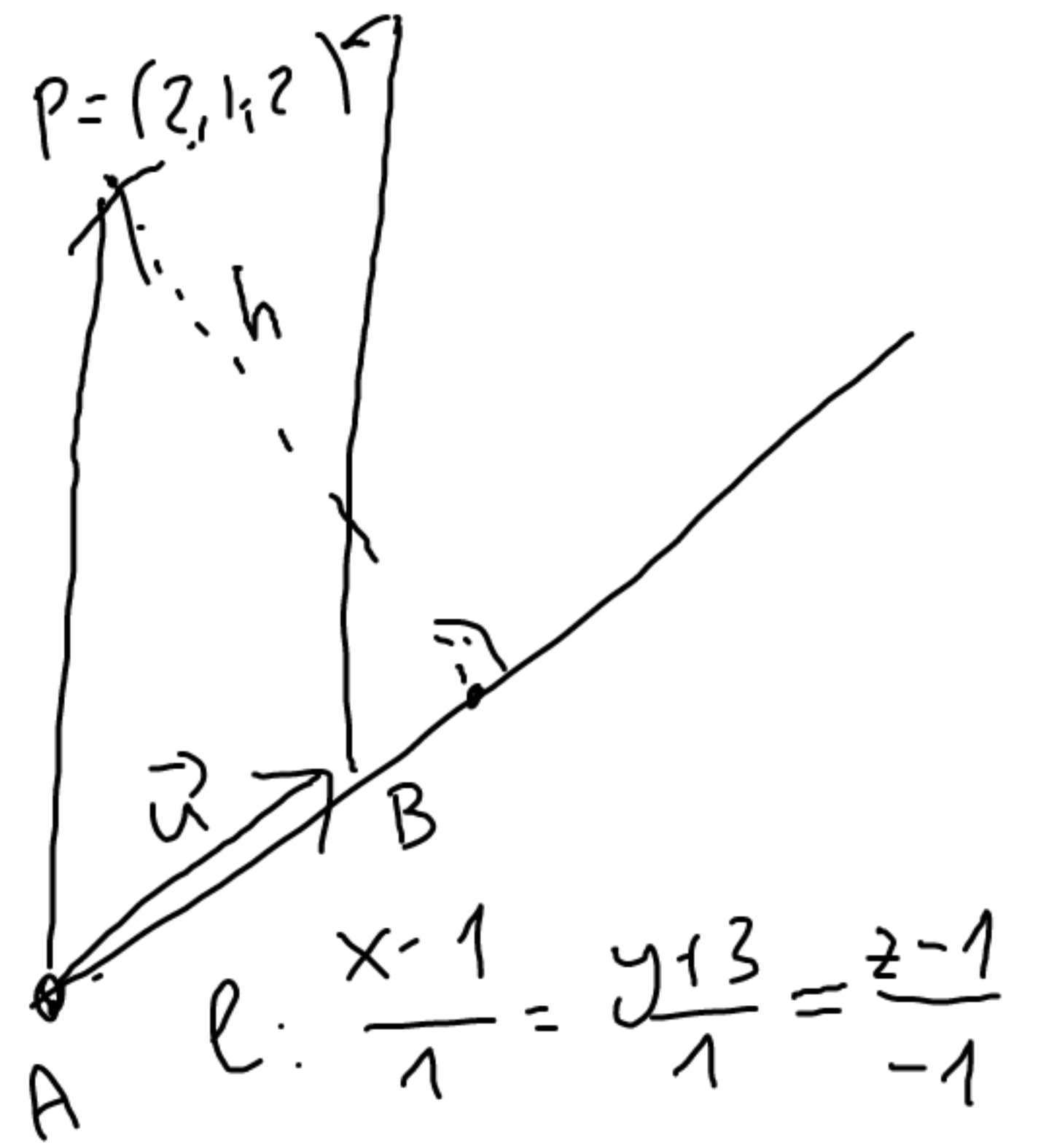
$$\vec{u} = [1, 1, -1]$$

$$\vec{AP} \times \vec{u} = \begin{bmatrix} 4 & 1 & -1 & | & 1 & 1 & | & 1 & 4 \\ 1 & -1 & -1 & | & 1 & -1 & | & 1 & 1 \end{bmatrix} = \begin{bmatrix} 1 & 4 \\ 1 & 1 \end{bmatrix} = [-5, 2, -3]$$

$$|\vec{v}| = \sqrt{25 + 4 + 9} = \sqrt{38}$$

$$h = \frac{\sqrt{38}}{\sqrt{3}}$$

$$|\vec{u}| = \sqrt{1 + 1 + 1} = \sqrt{3}$$



$$|\vec{AP} \times \vec{u}| = |\vec{u}| \cdot h$$

$$h = \frac{|\vec{AP} \times \vec{u}|}{|\vec{u}|}$$