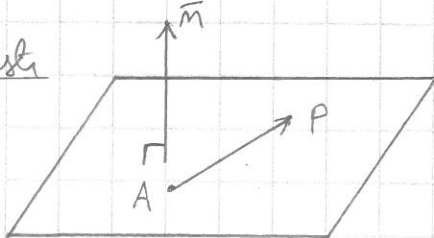


yleisesti



Tason normaali vektori: $\vec{m} = a\vec{i} + b\vec{j} + c\vec{k}$

Tason yksi piste $A = (x_0, y_0, z_0)$

Piste $P = (x, y, z)$ on tasolla

$$\Rightarrow \vec{AP} \perp \vec{m}$$

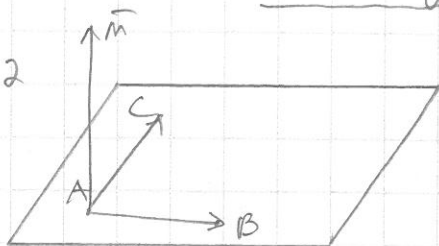
$$\Rightarrow \vec{AP} \cdot \vec{m} = ((x-x_0)\vec{i} + (y-y_0)\vec{j} + (z-z_0)\vec{k}) \cdot (a\vec{i} + b\vec{j} + c\vec{k}) = 0$$

$$\Rightarrow (x-x_0)a + (y-y_0)b + (z-z_0)c = 0$$

$$\Rightarrow ax + by + cz - ax_0 - by_0 - cz_0 = 0$$

$$\Rightarrow \underline{ax + by + cz + d = 0} \quad \text{d Tason normaaliin vektorin yhtälö}$$

8.12



$$A = (4, 0, 2), B = (-2, 1, 0), C = (0, 5, 0)$$

$$\vec{AB} =$$

$$\vec{AC} =$$

$$\vec{m} = \vec{AB} \times \vec{AC} = \begin{vmatrix} \vec{i} & \vec{j} & \vec{k} \\ \vec{AB} & \vec{AC} \end{vmatrix}$$