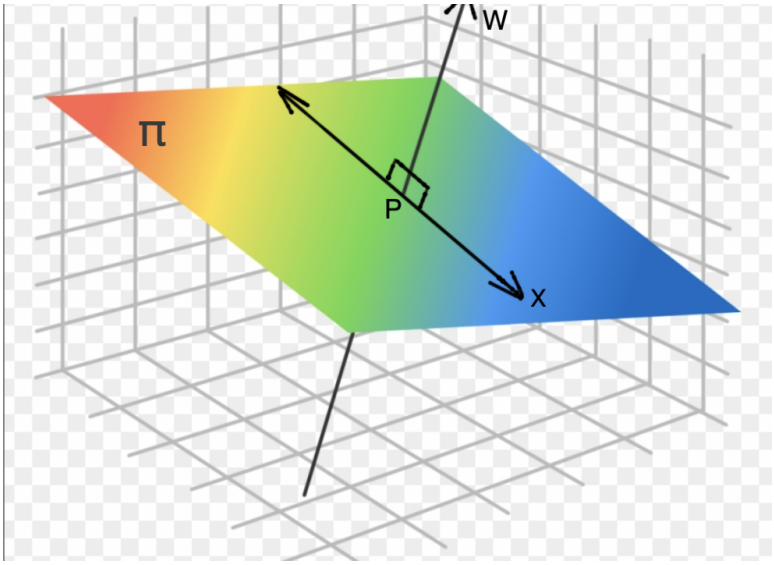
Recall

How to write down a plane passing through a point with a normal vector



$$x \leftrightarrow \vec{ox}$$
$$p \leftrightarrow \vec{op}$$

Write down the characristic of $x \in \pi$

$$\vec{px} \perp \vec{w} \iff \vec{px} \cdot \vec{w} = 0$$
$$(x - p) \cdot \vec{w} = 0$$
$$\iff \vec{w} \cdot x - \vec{w} \cdot p = 0$$
$$\iff \vec{w} \cdot + b = 0, \forall x \in \pi$$