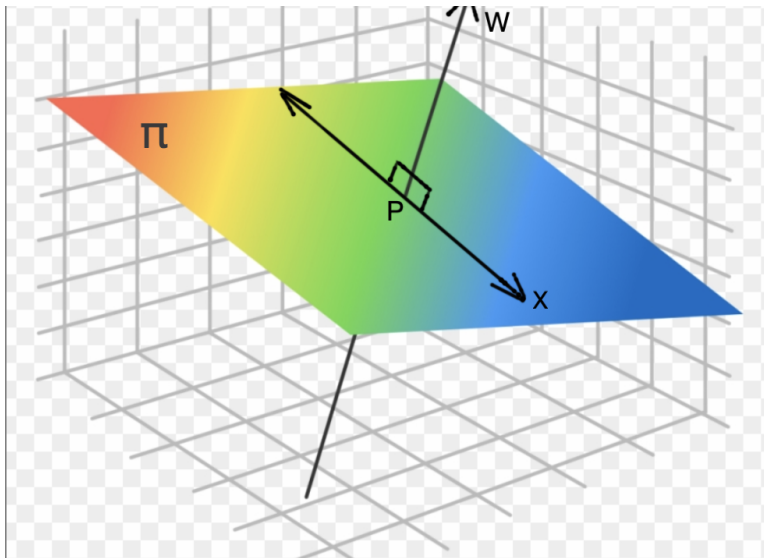


Recall

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



$$\begin{aligned}x &\leftrightarrow \vec{ox} \\p &\leftrightarrow \vec{op}\end{aligned}$$

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

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