



$P \in d$

\Leftrightarrow

$$\overrightarrow{AP} \perp \vec{n}$$

$$\begin{pmatrix} x - a_1 \\ y - a_2 \end{pmatrix} \perp \begin{pmatrix} a \\ b \end{pmatrix}$$

\Leftrightarrow

$$a \cdot (x - a_1) + b \cdot (y - a_2) = 0$$

$$\Leftrightarrow \boxed{ax + by - (aa_1 + ba_2) = 0}$$

$$\Leftrightarrow \boxed{ax + by + c = 0}$$

$$\text{with } c = -(aa_1 + ba_2)$$