

$$\begin{cases} x \sin A + y \cos A = p \\ x \cos A - y \sin A = q \end{cases}$$

Jerms

$$p^2 = x^2 \sin^2 A + 2xy \sin A \cos A + y^2 \cos^2 A$$

$$q^2 = x^2 \cos^2 A - 2xy \cos A \sin A + y^2 \sin^2 A$$

Dar

$$p^2 + q^2 = \frac{x^2 \sin^2 A + 2xy \sin A \cos A + y^2 \cos^2 A}{+ x^2 \cos^2 A - 2xy \cos A \sin A + y^2 \sin^2 A}$$

$$p^2 + q^2 = x^2 + y^2$$

$$110. \begin{cases} \sin A + \cos A = p \\ \tan A + \cot A = q \end{cases}$$

Jerms

$$p^2 = \sin^2 A + 2 \sin A \cos A + \cos^2 A \\ = 1 + 2 \sin A \cos A$$

$$\therefore p^2 - 1 = 2 \sin A \cos A \quad (*)$$

Tambien

$$\tan A + \cot A = q$$

$$\frac{\sin A}{\cos A} + \frac{\cos A}{\sin A} = q$$

$$\frac{\sin^2 A + \cos^2 A}{\cos A \sin A} = q$$

$$\frac{1}{\cos A \sin A} = q$$

$$\therefore \cos A \sin A = \frac{1}{q} \quad (**)$$

$$(*) \rightarrow (**)$$

$$p^2 - 1 = \frac{2}{q}$$

$$q(p^2 - 1) = 2$$