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$P_1, P_2, P_3, P_4, P_5 \cdots P_8$ fail to impose independent conditions on cubics. Assume no five are collinear.

① P_5, P_6, P_7, P_8 non collinear, say P_6, P_7, P_8.

Choose a conic τ containing P_1, P_2, P_3, P_4, P_5. by(i)

Consider $\tau + L_{68}$, $\tau + L_{67}$, $\tau + L_{78}$, and $\tau + L_{68} \ni P_7 \ldots$

$\Rightarrow$ By the collinearity, $P_7, P_8, P_6 \in \tau$.

Here we can always choose such τ since

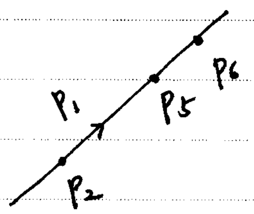
$$\left(\frac{\partial \tau}{\partial x}, \frac{\partial \tau}{\partial y}\right) \cdot P_1 = 0 \qquad \left(\frac{\partial \tau}{\partial x}, \frac{\partial \tau}{\partial y}\right) \cdot P_3 = 0$$

$\tau(P_2) = \tau(P_4) = \tau(P_5) = 0$ are 5-equations.

Thus it remains to prove (i).

Consider $L = L_{12}$.

① L contains two points, say P_5, P_6



$L + L_{67} + L_4$ where L_4 is a line passing P_4 missing all the other points.

$\Rightarrow$ $L + L_{67} + L_4 \ni P_1, P_2, P_4, P_5, P_6, P_7$.

$\Rightarrow$ As we observed on P747 note, $P_1, P_2, P_4, P_5, P_6, P_7$ impose independent conditions unless no five are collinear.

Implicitly, we assumed that $P_1, P_2, P_3, P_4, P_5, P_6, P_7$ fail to impose independent conditions. And we are going to show that $\exists$ five collinear points.