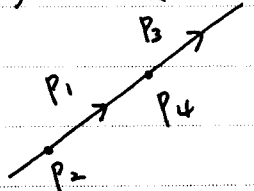


$L_{23} + L_{45} + L_{67} \ni P_1 \Rightarrow$ Contradiction, since a line can not have nonzero second derivative. Thus almost trivially $P_1, P_2, P_3, \dots, P_7$ impose linearly independent conditions on cubics. Since P_4, P_5, P_6, P_7, P_8 are noncollinear, \exists three noncollinear points, say P_6, P_7, P_8 . We can choose a conic τ containing P_1, P_2, P_3, P_4, P_5 . Again consider $\tau + L_{67}, \tau + L_{68}, \tau + L_{78} \Rightarrow \tau \ni L_6, L_7, L_8$ by the dependence of $P_1, P_2, \dots, P_5, P_8$. //

(iii) Continuation from P750 note: Correction.

(iii) $L_{12} \ni P_4, P_5$



Consider a conic τ containing P_1, P_2, P_3, P_6, P_7 .

$\Rightarrow \tau + L_{45} \ni P_1, P_2, P_4, P_5, P_6, P_7 \Rightarrow$ By the linear dependence of $P_1, P_2, P_3, P_4, P_5, P_6, P_7$, $P_3 \in \tau + L_{45}$.
 \Rightarrow If $P_3 \in L_{45} \Rightarrow$ done, i.e. L_{12} has five points.

If $P_3 \in \tau$, then $\#(L_{12} \cap \tau) \geq 3 \Rightarrow$ Since $\deg \tau = 2$, $L_{12} \subset \tau \Rightarrow \tau = L_{12} + L_{567}$, since $\tau \ni P_1, P_2, P_3, P_4, P_5, P_6, P_7$.

① $P_1, P_2, P_3, P_4, P_6, P_7, P_8$ fail to impose linearly independent conditions

By the argument above, $\tau' + L_{67} \ni P_3 \Rightarrow \tau' \ni P_3$

$\Rightarrow \tau' = L_{12} + L_{678}$, where $\tau' \ni P_1, P_2, P_4, P_5, P_6$.

$\Rightarrow L_{678} = L_{567} \Rightarrow P_1, P_2, P_3, P_4, P_5, P_6, P_7, P_8$ lie on the conic $L_{12} + L_{56}$.

② $P_1, P_2, P_3, P_4, P_6, P_7, P_8$ impose linearly independent conditions. and so do $P_1, P_2, P_3, P_4, P_5, P_6, P_8, \dots$.