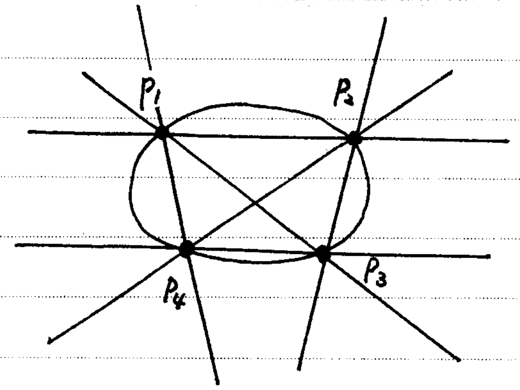

⌈ Since L is a generic pencil, if $L = \{ a S_1 + b S_2 \}$, $(S_1 = 0) \cap (S_2 = 0)$ is a set of four distinct points. ⇒ By the Reciprocity Formula I on P714,

$$\dim |\mathcal{J}_{\Gamma_0}(2)| = \left\{ \frac{2(2+3)}{2} - 4 \right\} + h^0(\mathcal{J}_P(2-3))$$

$$= 1 + 0 = 1$$

where $\Gamma_0 = \{ p_1, p_2, p_3, p_4 \}$. $n = 2$, $d = \deg \Gamma_0 = 4$

$\Rightarrow \quad L = |\mathcal{J}_{P_0}(2)|$

⇒ This implies that any conic passing Γ_0 is a linear combination of S_1 and S_2. ⌋

But since no three of the points p_i are collinear, if F is a conic consisting of two lines l, l' and containing $\{p_i\}$, then l and l' must each contain two of the points $\{p_i\}$.

⌈ Suppose three of p_i's are collinear.

⇒ Say $\overline{P_1 P_2 P_3} = l$, ⇒ $\#(l \cap S_1) = 3$ ⇒ Since S_1 is a quadric, $S_1 \supset l$. Similarly, $S_2 \supset l$. ⇒ $S_1 = l\sigma_1$ $S_2 = l\sigma_2$, σ_1, σ_2 lines.