Kummer surface S.

Definition. For any $x \in X$, the line l_x is called a singular line of the complex X if it is an element of two confocal pencils of X — in other words, if $\sigma(p)$ is tangent to F at x for some point $p \in l_x$.

Γ $x = L_1 \cap L_2$, L_1, L_2 confocal pencils of X $\Rightarrow$
$L_1 = \sigma(p, h_1)$ $L_2 = \sigma(p, h_2)$ for some $p \in l_x$.
$\Rightarrow$ $\sigma(p) \cap F = L_1 \cup L_2$ $\Rightarrow$ $\sigma(p)$ is tangent to F at x since $\sigma(p) \cap F$ is singular at x

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For $p \in S-R$, of course, there is a unique singular line through p: the line of intersection of the two hyperplanes comprising the locus of X_p; for $p \in R$, any line l_x of X through p is singular. We denote by $\Sigma \subset X$ the set of $x \in X$ such that l_x is singular.

Γ $\sigma(p) \cap X = \sigma(p, h_1) \cup \sigma(p, h_2)$, $h_1 \cap h_2 \ni p$ $\Rightarrow$ $h_1 \cap h_2$ is the unique singular line through p. For $p \in R$, $\sigma(p) \cap X \ni l_x$ is singular, since $\sigma(p) \cap X = 2\sigma(p, h)$.

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