and hence $\ell \in V_1(W)$; or

(2) $F_1 = F_2 \in L$, i.e., $\ell \in V_0(L)$.

Since, conversely, both $V_0(L)$ and $V_1(W)$ are contained in $V_0(N_1) \cap V_0(N_2)$,

$$V_0(N_1) \cap V_0(N_2) = V_1(W) \cup V_0(L).$$

⊏ Clearly, $V_0(L) \subset V_0(N_1) \cap V_0(N_2)$.

$\ell \in V_1(W)$. $\Rightarrow$ ℓ lies on a pencil of quadrics in W

$\Rightarrow$ If we let K be the pencil, $K \cap N_1 \neq \phi$

$\Rightarrow$ $\ell \in N_1$. Similarly $\ell \in N_2$

$\Rightarrow$ $V_0(L) \cup V_1(W) \subset V_0(N_1) \cap V_0(N_2)$. //

By the argument above, $V_0(N_1) \cap V_0(N_2) \subset V_1(W) \cup V_0(L)$.

$\Longrightarrow$ $V_0(N_1) \cap V_0(N_2) = V_0(L) \cup V_1(W)$.

⊐

Now $V_0(N_1) \sim V_0(N_2) \sim 3\sigma_1$, so the intersection $V_0(N_1) \cap V_0(N_2)$ has class

$$(3\sigma_1)^2 = 9\sigma_{1,1} + 9\sigma_2;$$

on the other hand, $V_0(L) \sim 2\sigma_2 + 6\sigma_{1,1}$, so we find again that

$$V_1(W) \sim 7\sigma_2 + 3\sigma_{1,1}.$$

⊏ By the result on P747, $V_0(N_1) \sim V_0(N_2) \sim 3\sigma_1$.

$\Rightarrow$ $(3\sigma_1)^2 = 9(\sigma_2 + \sigma_{1,1}) = 9\sigma_{1,1} + 9\sigma_2$ by P746.