Similarly, B has multiplicity 2 at a_2 for generic b. $\Rightarrow$ $\#(A \cdot B) = \#\{2a_1 + 2a_2 + a_3 + a_4 + a_5 + a_6\} = 8$

$\Rightarrow$ $\#\{(A \cap B) - \text{all } a_i\text{'s}\} = 1$

$\Rightarrow$ Since ψ is not defined on a_i's, ψ has only one point p. s.t $\psi(p) = [1, a, b]$ for generic a, b.

"Comment"

$F(X_0, X_1, X_2) = 0$ on $\mathbb{P}^2$. Suppose $\frac{\partial F}{\partial X_0}(p) = \frac{\partial F}{\partial X_1}(p) = \frac{\partial F}{\partial X_2}(p) = 0$.

$$T = \Big\{ \frac{\partial^2 F}{\partial X_0^2}(p) X_0^2 + \frac{\partial^2 F}{\partial X_1^2}(p) X_1^2 + \frac{\partial^2 F}{\partial X_2^2}(p) X_2^2 + 2 \frac{\partial^2 F}{\partial X_0 \partial X_1}(p) X_0 X_1$$
$$+ 2 \frac{\partial^2 F}{\partial X_0 \partial X_2}(p) X_0 X_2 + 2 \frac{\partial^2 F}{\partial X_1 \partial X_2}(p) X_1 X_2 = 0 \Big\}$$

Question: Let $[(X_0(t), X_1(t), X_2(t))]$ be a curve (in $F=0$) passing p. $\Rightarrow$ $[(X_0(0), X_1(0), X_2(0))] = p$

$$C(t) = [t(X_0'(0), X_1'(0), X_2'(0)) + p]$$

$\Rightarrow$ $C(t) \in T$?

In other words,

$$\circledast \cdots \frac{\partial^2 F}{\partial X_0^2}(p) \, (tX_0'(0) + X_0(0))^2 + \frac{\partial^2 F}{\partial X_1^2}(p) \, (tX_1'(0) + X_1(0))^2$$
$$+ \frac{\partial^2 F}{\partial X_2^2}(p) \, (tX_2'(0) + X_2(0))^2 + 2 \frac{\partial^2 F}{\partial X_0 \partial X_2}(p) \, (tX_0'(0) + X_0(0))(tX_2'(0) + X_2(0))$$
$$+ 2 \frac{\partial^2 F}{\partial X_1 \partial X_2}(p) \, (tX_1'(0) + X_1(0))(tX_2'(0) + X_2(0)) + 2 \frac{\partial^2 F}{\partial X_0 \partial X_1}(p) \, (tX_0'(0) + X_0(0))(tX_2'(0) + X_2(0))$$
$$\stackrel{?}{=} 0$$