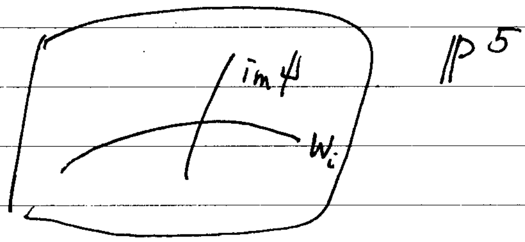
surface and a finite collection of points, respectively.

Γ $\varphi : \mathbb{P}^3 \longrightarrow \mathbb{P}^5$
$\quad\quad p \longmapsto X_p$ see p.241

$\Rightarrow$ $S = \varphi^{-1}(W_1)$ and $R = \varphi^{-1}(W_2)$.
$\Rightarrow$ cod $W_1 = 1$ and since W_2 is the Veronese surface in $\mathbb{P}^5$, cod $W_2 = 3$.
If we assume that im φ meets W_1 & W_2 transversely, cod $\varphi^{-1}(W_1) = 1$ and cod $\varphi^{-1}(W_2) = 3$. For, im φ should take care of codimension of W_1 & W_2 so that $\dim(\text{im}\,\varphi + W_i) = 5$, $i = 1, 2$.



$\Rightarrow$ We can expect that S is a surface and R is a set of finite points.

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That S is indeed a surface will be apparent from the following computations; that R is finite will emerge later.
Our first task will be to determine the degree of