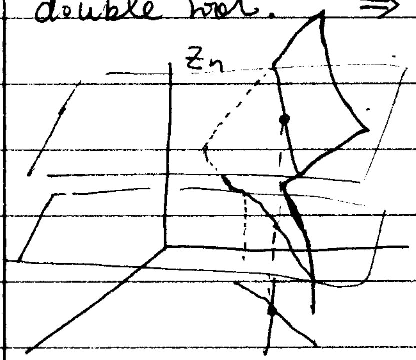
nomial of constant degree for generic z.

Suppose $z_0 \in \pi(W)$ and $f(z, z_n) = 0$ does not have a double root. $\Rightarrow$ $z_n = h_1(z)$, $z_n = h_2(z)$ locally.



I think $\#\{z_n \in \mathbb{C} ; f(z, z_n) = g(z, z_n) = 0\} = 1$ for generic point z.

Suppose for some open set U, if $\forall z \in U$.

$\#\{z_n \in \mathbb{C} ; f(z, z_n) = g(z, z_n) = 0\} = 2$

| Difficulties ! |

Let $n = 4$. Assume that

$$f(z_4) = z_4^4 + a_1(z_1, z_2, z_3) z_4^3 + a_2(z_1, z_2, z_3) z_4^2 + a_3(z_1, z_2, z_3) z_4 + a_4(z_1, z_2, z_3)$$

$$g(z_4) = z_4^3 + b_1(z_1, z_2, z_3) z_4^2 + b_2(z_1, z_2, z_3) z_4 + b_3(z_1, z_2, z_3).$$

Let $\alpha f + \beta g = \gamma$, where α, β & γ are relatively prime.

① Assume γ has a nonzero discriminent $D(\gamma)$, and γ is a Weierstrass polynomial in z_3.

$\Rightarrow$ For each point $(z_1^0, z_2^0) \notin (D(\gamma) = 0)$, $\exists$ (z_3^0, z_4^0) s.t $f(z_1^0, z_2^0, z_3^0, z_4^0) = g(\quad) = 0 = \gamma(z_1^0, z_2^0, z_3^0)$.

$$\Rightarrow \frac{\partial \alpha}{\partial z_4} f + \alpha \frac{\partial f}{\partial z_4} + \beta \frac{\partial g}{\partial z_4} + g \frac{\partial \beta}{\partial z_4} = 0$$

$$\Rightarrow \quad \alpha(z_1^0, \cdots z_4^0) \frac{\partial f}{\partial z_4} + \beta \frac{\partial g}{\partial z_4} = 0$$