

④

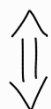
$p: \mathbb{S}^1 \rightarrow \mathbb{S}^1$ rivestimento
 $z \mapsto z^n$

$n \in \mathbb{Z} \setminus \{0\}$
 $\mathbb{S}^1 \subset \mathbb{C}$

$$p(e^{2\pi i t}) = e^{2\pi i n t}$$

$\forall z = e^{2\pi i n t} \in \mathbb{S}^1, \exists w = e^{2\pi i t} \in \mathbb{S}^1 \mid p(w) = z, \forall n \in \mathbb{Z} \setminus \{0\} \Rightarrow p$ suriettiva

$p: \tilde{X} \rightarrow X$ rivest



① p suriettiva $\Rightarrow p(\tilde{X}) = X$

② $\forall x \in X, \exists U \subseteq X$ aperto, $U \ni x \wedge \exists \{\tilde{U}_j\}_{j \in J} \subseteq \tilde{X}$ aperti

$$\left\{ \begin{array}{l} p^{-1}(U) = \bigsqcup_{j \in J} \tilde{U}_j \\ \tilde{U}_j \cap \tilde{U}_k = \emptyset, \forall j, k \in J, j \neq k \\ p|_{\tilde{U}_j}: \tilde{U}_j \rightarrow U \text{ omeomorfismo } \forall j \in J \end{array} \right.$$

$\forall z = e^{2\pi i n t} \in \mathbb{S}^1, \exists U = (e^{2\pi i n(t-\varepsilon)}, e^{2\pi i n(t+\varepsilon)}) \subseteq \mathbb{S}^1$ aperto, $U \ni z, \varepsilon \in \mathbb{R}^+$

$\wedge \exists \tilde{U} = (e^{2\pi i(t-\varepsilon)}, e^{2\pi i(t+\varepsilon)}) \subseteq \mathbb{S}^1$ aperto, $\varepsilon \in \mathbb{R}^+ \mid \left\{ \begin{array}{l} p(\tilde{U}) = U \\ p|_{\tilde{U}}: \tilde{U} \rightarrow U \\ \text{omeomorfismo} \end{array} \right.$

