4 $p : \mathbb{S}^1 \to \mathbb{S}^1$ rivestimento $\quad n \in \mathbb{Z} \setminus \{0\}$

$z \mapsto z^n \quad \mathbb{S}^1 \subset \mathbb{C}$

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

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

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

$\Updownarrow$

1. p suriettiva $\implies p(\tilde{X}) = X$
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 $\Bigg|$

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

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

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