

$$\textcircled{12} \quad \pi_{n-1}(S^{n-1}) \cong \mathbb{Z}, \quad n \in \mathbb{N} \quad \Rightarrow \quad \forall f: D^n \rightarrow D^n \text{ continua}, \exists x \in D^n \mid f(x) = x$$

Corollario 4.2.2 vale per $n \in \mathbb{N}$ perché $\begin{cases} \pi_{n-1}(S^{n-1}) \cong \mathbb{Z} \\ \pi_n(D^n) \cong \{e\} \end{cases} \quad ???$

$$\text{Teor 2.3.1} \\ r \circ i = \text{id}_A \quad \Rightarrow \quad r_* \circ i_* = (r \circ i)_* = \text{id}_{\pi_1(S^1)}$$

$$i_*: \pi_1(S^1) \rightarrow \pi_1(D^1) \quad \text{non può essere iniettiva} \quad \because \begin{cases} \pi_1(S^1) \cong \mathbb{Z} \\ \pi_1(D^1) \cong \{e\} \end{cases} \\ \quad \quad \quad ???$$

