Esercizio 1. Let $A \subseteq \mathcal{U}$, let $\mathcal{D}$ be a definable set with finite orbit over A. Without using $\mathcal{U}^{\mathrm{eq}}$ prove that $\mathcal{D}$ is union of classes of a finite equivalence relation definable over A.

L'esercizio può richiedere un po' di riflessione (e discussione). I seguenti due esercizi sono in alternativa.

Esercizio 2. Let $p(x) \subseteq L(A)$ and let $\varphi(x;y) \in L(A)$ be a formula that defines, when restricted to $p(\mathfrak{U})$, an equivalence relation with finitely many classes. Prove that there is a finite equivalence relation definable over A that coincides with $\varphi(x;y)$ on $p(\mathfrak{U})$.

Esercizio 3. Let T be strongly minimal and let $\varphi(x;y) \in L(A)$ with $|x| = |y| = 1$. For arbitrary $c \in \mathcal{U}$, prove that if the orbit of $\varphi(\mathcal{U};c)$ over A is finite, then $\varphi(\mathcal{U};c)$ is definable over $\operatorname{acl} A$.