Exercises

E21.1.8 [1PN]Prerequisites:[1NW],[1PF].Let γ, δ be closed curves, but seen as maps defined on $\mathbb{R}$, continuous and periodic of period 1.

Let's discuss a new relation: we write $\gamma \sim_f \delta$ if there is an increasing homeomorphism $\varphi : \mathbb{R} \to \mathbb{R}$ such that $\varphi(t+1) = \varphi(t) + 1$ for every $t \in \mathbb{R}$, and for which $\gamma = \delta \circ \varphi$

Show that this is an equivalence relation.

Compare it with the relation $\sim$.

Solution 1. [1PP]