Flows and cycles in graphs – Exercises 3

1. Prove that every bridgeless graph has a NZF in every large-enough group. (Do not try to optimize the size.)

2. Put $V = \mathbb{R}^{E(G)}$ and let $\mathcal{F}$ be the subspace of V formed by all Γ-flows (not necessarily nowhere zero). What is the orthogonal complement of $\mathcal{F}$ in V?