1. Show that $[1, 3]$ and $[5, 25]$ have the same cardinality by giving a formula for a one-to-one function $f$ mapping $[1, 3]$ onto $[5, 25]$. You must prove the given function is one-to-one and onto.

2. Determine whether the relation $x R y$ in $\mathbb{R}$ if $|x| = |y|$ is an equivalence relation. Prove your answer. If $R$ is an equivalence relation on $\mathbb{R}$, give the partition arising from the equivalence relation.

3. Determine whether the relation $x R y$ in $\mathbb{R}$ if $|x - y| \leq 3$ is an equivalence relation. Prove your answer. If $R$ is an equivalence relation on $\mathbb{R}$, give the partition arising from the equivalence relation.