Problem 8. Given $a, b \in \mathbb{R}$ with $a < b$, show that $(a, b) \sim (0, 1)$.

Problem 9. Suppose that $A$ is an infinite countable set and pick $x \in A$. Show that $A \sim A - \{x\}$.

Problem 10. Suppose that $A \subseteq B$ with $A$ uncountable. Show that $B$ is uncountable.