$x, 2x, 3x, \ldots, 199x$

Each will be reduced to one of the numbers

$$1, 2, 3, \ldots, 199.$$

There are 199 numbers in both lists, so we only need to show that no two numbers in the first set map onto the same number in the second list.

If $kx \equiv jx \pmod{199}$, by the cancellation property

$$k \equiv j \pmod{199}$$

Since $1 \leq k, j \leq 199$, $k = j$.

Hence no two numbers in the first list are reduced to the same number in the second. Q.E.D.