1. $x \in X$ such that x is an item to buy on the shopping list

2. Reflexive: The same paths have the same lengths.
   Symmetric: If a path has the same length as another path, the other path has the same length as it.
   Transitive. If path x has the same length as path y and path y has the same length as path z, then path x has the same length as path z.

3. $f(x) = 2x$ is a bijection

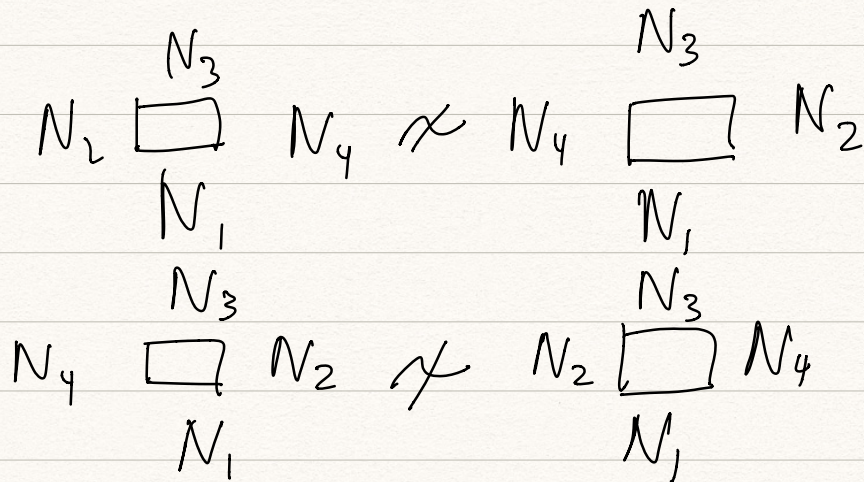4. Reflexive: There is a bijection from a set to itself
   Symmetric: A bijection from A to B means there's a bijection from B to A
   Transitive: If A to B is a bijection and B to C is a bijection, A to C is a bijection.

5. a. S can be rotated any number of degrees and reflected over the

horizontal axis any number of times.

b.

N_2 ⬜ N_4 N_4 ⬜ N_2
above: N_3, below: N_1 ≠   above: N_3, below: N_1

N_4 ⬜ N_2 N_2 ⬜ N_4
above: N_3, below: N_1 ≠   above: N_3, below: N_1

not reflexive.