

Definition 3.72. [1Y5] An **order relation** (or simply **order**) is a relation between elements of A that enjoys the properties: reflective, antisymmetrical, transitive.

An order relation is **total** if all elements are **comparable**, i.e. if for every $a, b \in A$ you have $aRb \vee bRa$.

(When an order relation is not total, it is said to be **partial**).

Symbols such as " \leq " or " \subseteq " or " \preceq " or similar are generally used.