

Cartesian Products of Sets

- **ordered pair** (x, y) order matters.

$$(x, y) \neq (y, x)$$

The ordered pair (x, y) is a single element consisting of a pair of elements in which x is the first element (or first coordinate) of the ordered pair and y is the second element (or second coordinate)

- The **Cartesian product** of $A \times B$ of two sets A and B is the set consisting of all ordered pairs whose first coordinate belongs to A and whose second coordinate belongs to B .