### Definition: Cartesian Product

was developed by theCartesian product × N := {(m, n)|m ∈ M, n ∈ N}Let M and N be non-empty sets. Then the M × N CartesianproductM N. of M and N is defined as M × NM

This aspect of set theory . is read “ cross ” The set defined by

losopher and mathemeti-cian René Descartes. (m, n) ∈ M × N are called ordered pairs. Two ordered pairs . (m1, n1) and (m2, n2) are 17th-century French phi- is also known as the product set.

Let A := {x, y, z} and B := {1, 2, 3}.

A × B := {(x, 1), (x, 2), (x, 3), (y, 1), (y, 2), (y, 3), (z, 1), (z, 2), (z, 3)}.

Figure 3: Cartesian Product