

Definition

- Let A, B be sets. A **function from A to B** is a rule f that assigns — to every $x \in A$ — some $y \in B$.
- We write $f: A \rightarrow B$.
- This element is denoted $f(x)$.
- A is called the **domain** of the function f .
- B is called the **codomain** of the function f .
- The set $\{y \in B : \exists x \in A, f(x) = y\} \subseteq B$ is called the **range** or **image** of f .
- Functions are also called **maps** or **transformations**.