

Definition 3.141. [1Y6] Given two sets A, B , a function $f : A \rightarrow B$ is a triple

$$A, B, F$$

(where A is said domain and B codomain) and F is a relation $F \subseteq A \times B$ such that

$$\forall x \in A \exists ! y \in B, xFy \quad ;$$

i.e. it enjoys the properties of being functional and total (defined in [23X]).

Being the element y unique, we can write $y = f(x)$ to say that y is the only element in relation xFy with x .

The set F is also called graph of the function.