

Tips and Tricks

Formula Tip: Total number of relations

The total number of relations that can be defined from a set A to a set B is the number of possible subsets of $A \times B$.

$$n(A)=p \text{ and } n(B)=q$$

$$n(A \times B) = pq$$

$$\text{total \# of relations} = 2^{pq}$$

Visual Tip: In JEE Exams lots of questions are based on whether a relations is a function or not. To solve such questions, difference between them might help. It is given in the visual.

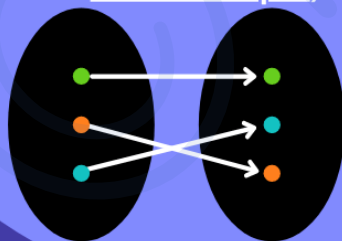
Relations

(Map each input to at least one output)

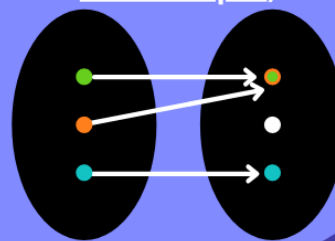
Functions

(Map each input to exactly one output)

One-to-one
(each input maps to a distinct output)



Many-to-one
(multiple inputs map to same output)



Not functions

(Map some inputs to multiple outputs)

