Relations as Functions

Name _____

Date _____ Period _____

A relation is a correspondence between two different sets.

The age and weight of a new puppy.

age (months)	1	2	3	4	5
weight (lbs)	3	6	11	16	20

Personal time studying and test scores for each unit.

Time (min)	30	15	65	20	90	50	35	15	55
Test Score	85	82	93	88	97	91	93	81	92

A relation is a correspondence between two different sets.

The age and weight of a new puppy.

Independent

Dependent

age (months)	1	2	3	4	5
weight (lbs)	3	6	11	16	20

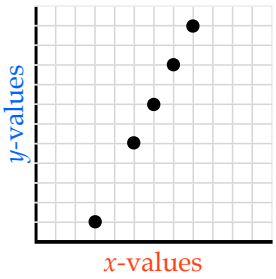
Domain or input

Range or output

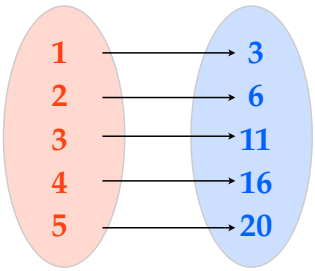
Ordered Pairs

(1, 3)
(2, 6)
(3, 11)
(4, 16)
(5, 20)

Graph



Mapping



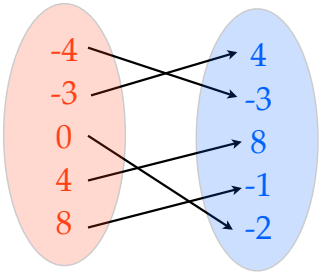
Table

Age	Weight
1	3
2	6
3	11
4	16
5	20

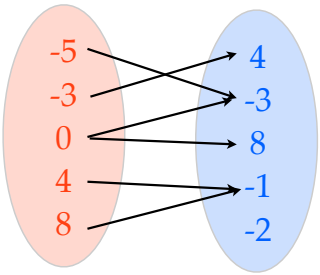
A function is a relation in which every element in the domain is paired with exactly one element in the range.

Mapping

Relation 1



Relation 2



A function is a relation in which every element in the domain is paired with exactly one element in the range.

Ordered Pairs

Relation 1

(3,6), (-2,-1), (4,-3), (6,2)

Relation 2

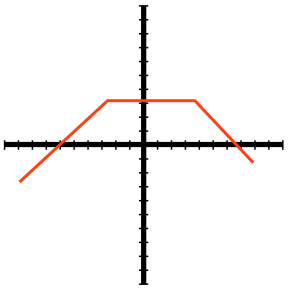
(3,-3), (2,-1), (3,4), (-1,5)

A function is a relation in which every element in the domain is paired with exactly one element in the range.

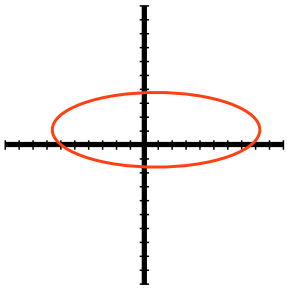
Graph

Vertical Line Test - If a vertical line passes through no more than one point of the graph of a relation, the relation is a function.

Relation 1
Is a Function!



Relation 2



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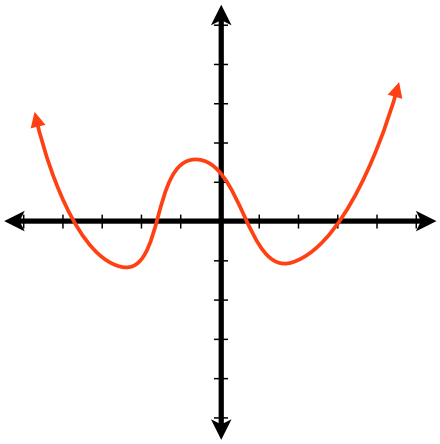
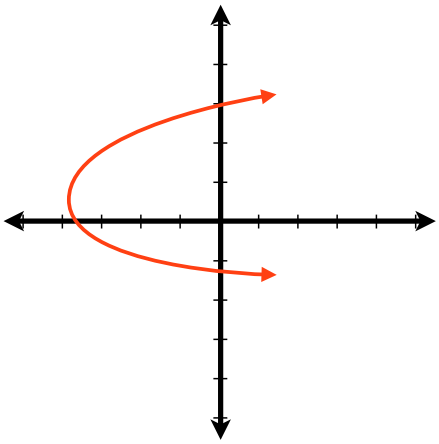
Graph





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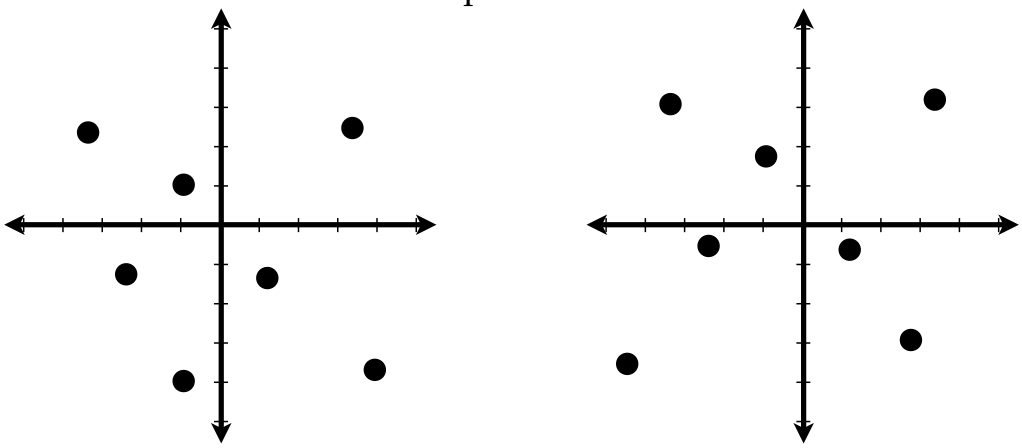
Graph



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A function is a relation in which every element in the domain is paired with exactly one element in the range.