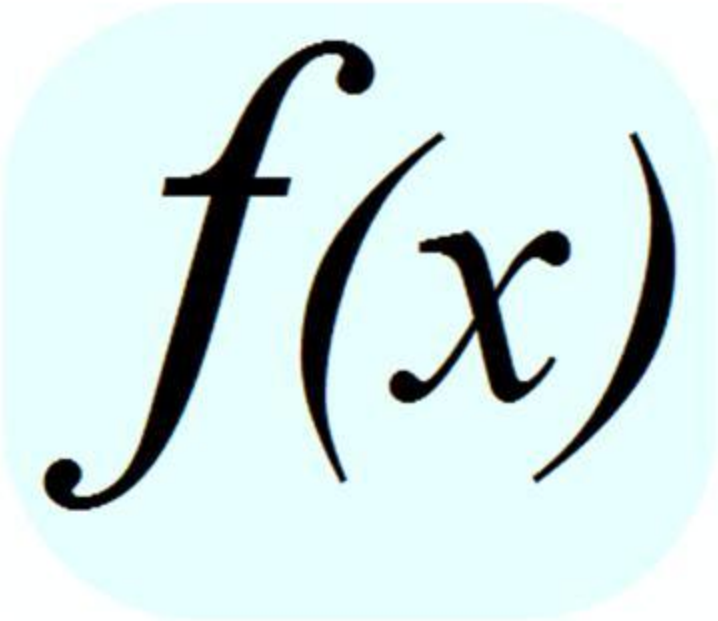
Functions

(Represented as Rules, Tables, and Graphs)



Functions

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A function consists of:

- A set containing all the input numbers, called the domain.
- A set containing all the output numbers, called the range.
- A pairing of inputs with outputs such that each input is paired with exactly one output.

Functions

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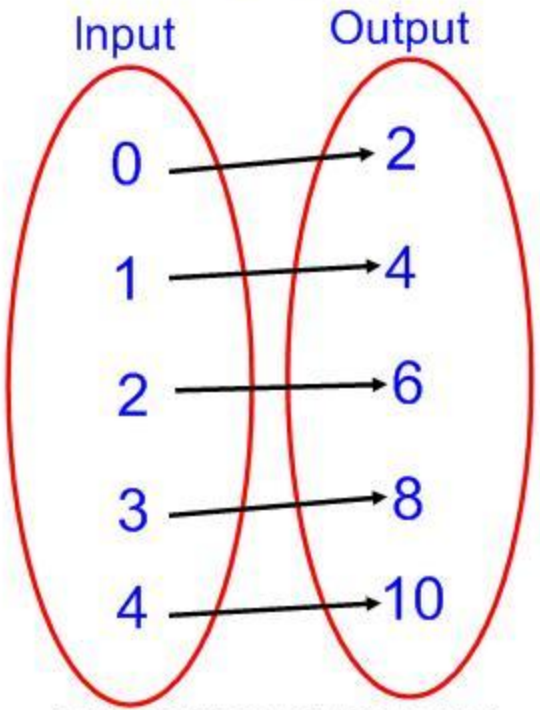
Input	Output
0	2
1	4
2	6
3	8
4	10

TABLE



MAPPING DIAGRAM

Functions

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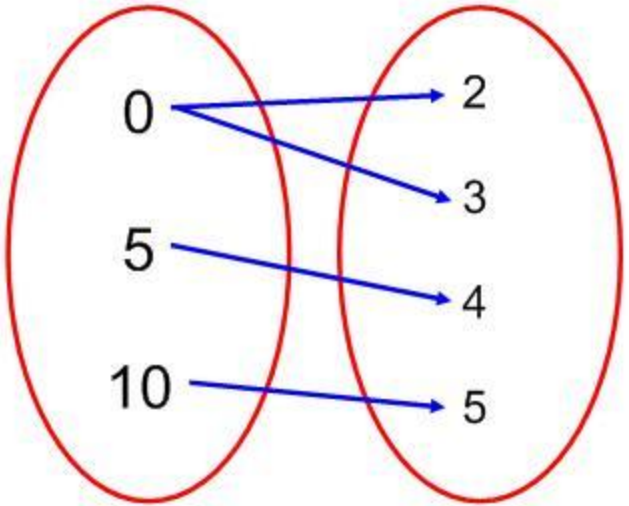
Tell whether each pairing is a function.

(Remember each input is paired with exactly one output.)

input	output
0	0
1	0
4	8
6	12
9	18



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A function may be represented using a rule that relates one variable to another.

- The input variable is called the independent variable.

- The output variable is called the dependent variable, because it depends on the independent variable.

Verbal Rule	Equation	Table
The output is 2 more than the input.	$y = x + 2$	

Input, x	0	1	2	3	4
Output, y	2	3	4	5	6

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The domain of the function y = 2x is 0, 2, 5, 7, 8. Make a table for the function, then identify the range of the function.

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The domain of the function y = 2x is 0, 2, 5, 7, 8. Make a table for the function, then identify the range of the function.

Input (x)	Rule: y = 2x	Output (y)
0	y = 2(0)	0
2	y = 2(2)	4
5	y = 2(5)	10
7	y = 2(7)	14
8	y = 2(8)	16

Functions

(Represented as Rules, Tables, and Graphs)

Make a table for the function, then identify the range of the function.

$y = \frac{1}{2}x + 3$

Domain: 4, 6, 9, 11

Functions

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Make a table for the function, then identify the range of the function.

$y = \frac{1}{2}x + 3$

Domain: 4, 6, 9, 11

Input (x)	$y = \frac{1}{2}x + 3$	Output (y)
4	$y = \frac{1}{2}(4) + 3$	**5**
6	$y = \frac{1}{2}(6) + 3$	**6**
9	$y = \frac{1}{2}(9) + 3$	**7.5**
11	$y = \frac{1}{2}(11) + 3$	**8.5**

Functions

(Represented as Rules, Tables, and Graphs)

TO GRAPH YOUR FUNCTION:

Turn your inputs and outputs into coordinates. In the form of (x,y)

Input (x)	Rule: y = 2x	Output (y)
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8	y = 2(8)	16

Functions

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TO GRAPH YOUR FUNCTION:

Turn your inputs and outputs into coordinates. In the form of (x,y)

Input (x)	Coordinates	Output (y)
0	(0, 0)	0
2	(2, 4)	4
5	(5, 10)	10
7	(7, 14)	14
8	(8, 16)	16