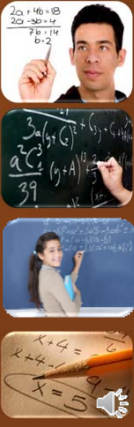



Algebra 1

Representing Functions as Tables and Graphs



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Function


Input – Output Tables

Dependent and Independent Variables

Domain and Range

Graphing Functions

Overview



Function:

a function is an operation that "maps" a set of inputs to a set of outputs


Input Value, "x"

Function, "y = 5x + 1"

Output Value, "y"

$y - 5x = 1$

If I multiply x by 5, and then add 1, I get y



Representing Functions as Tables and Graphs

Input – Output Tables

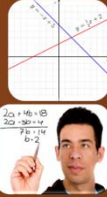
The taxi fare (y) is \$5 per mile (x) plus a \$1. The taxi only takes short trips, limiting its maximum distance to 4 miles.

$$y = \$5x + \$1$$

input →	x	1	2	3	4	← independent variable
output →	y	6	11	16	21	← dependent variable

▲ **Functions:** for any value of “x”, there can only be one resulting “y” value.

Representing Functions as Tables and Graphs



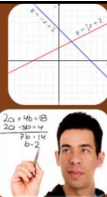
Input – Output Tables

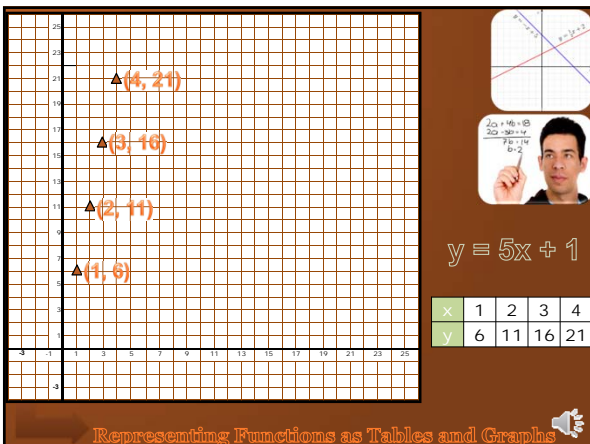
The taxi fare (y) is \$5 per mile (x) plus a \$1. The taxi only takes short trips, limiting its maximum distance to 4 miles.

$$y = \$5x + \$1$$

input →	x	1	2	3	4	← domain
output →	y	6	11	16	21	← range

Representing Functions as Tables and Graphs






x	1	2	3	4
y	6	11	16	21

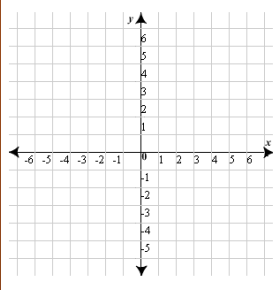
$$y = 5x + 1$$

Representing Functions as Tables and Graphs

$y = 3x - 3$

1. Is this a function?
2. Create an input – output table with a domain of -2, -1, 0, 1, 2
3. What is the range?
4. Graph the input-output table.






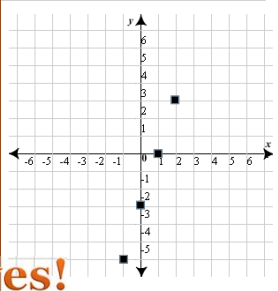
x	-1	0	1	2
y	-6	-3	0	3

Range = -6, -3, 0, 3


$y = 3x - 3$

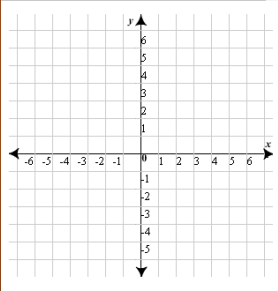
1. Is this a function? **yes!**
2. Create an input – output table with a domain of -1, 0, 1, 2
3. What is the range?
4. Graph the input-output table.



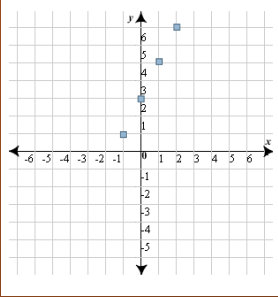


Use an Input-Output Table to graph $y = 2x + 3$ for a domain of -1, 0, 1 and 2






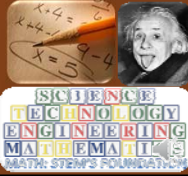
x	y
-1	1
0	3
1	5
2	7



Use an Input-Output Table to graph $y = 2x + 3$ for a domain of -1, 0, 1 and 2

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