

Graphing a Function Rule Guided Notes

Function Rule

A function rule is a mathematical rule that can be used to describe the general trend of the function. A rule can be taken as an **equation** representing any relationship.

A function Rule can be used to interpret the function as a graph.

How to graph a function rule?

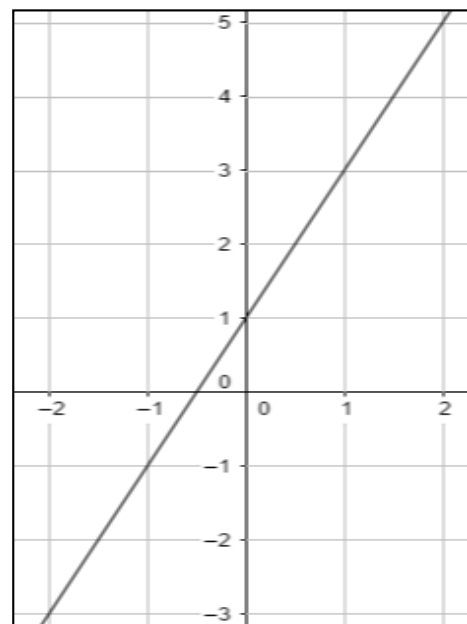
If we are given a function rule, we can make a table of values satisfying the function rule and graph these points to discover the shape of the function. Here we will cover two types of function graphs:

- Linear Function Graphs
- Nonlinear Function Graphs

Problem 1: What is the graph of the function rule $y = 2x + 1$?

Table

x	$y = 2x + 1$	(x, y)
-2	-3	$(-2, -3)$
-1	0	$(-1, 0)$
0	1	$(0, 1)$
1	3	$(1, 3)$
2	5	$(2, 5)$

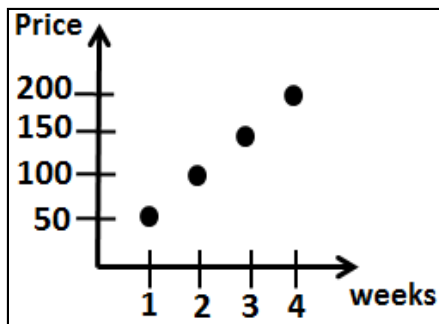


Graph

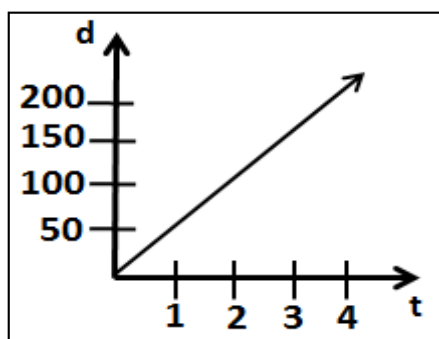
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Discrete and Continuous Graphs

- A **discrete graph** is composed of distinct isolated points on the graph.



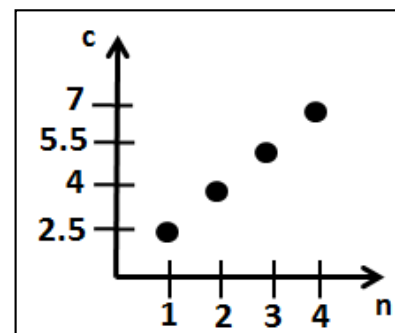
- A **continuous graph** is a graph that is unbroken and data exists between plotted values.



Problem 2: John buys eggs at the supermarket. The function representing the cost per carton of eggs is $c = 1.5n + 1$ where c is the cost of the carton of eggs and n is the number of cartons. Graph the function and tell whether the function is continuous or discrete?

Table

n	$c = 1.5n + 1$	(n, c)
1	2.5	(1, 2.5)
2	4	(2, 4)
3	5.5	(3, 5.5)
4	7	(4, 7)



The graph is discrete



The graph is discrete, so the function is a discrete function.