Chapter 8 Lesson 3: Functions and Equations

You can use an equation to represent a function.

- The input (independent variable) represents the x-value.
- The output (dependent variable) represents the y-value.

Input, x	1	2	3	4
Output, y	16	32	48	64

Equation: 16x=y

Think:

Input, x	Rule 16x	Output, y
1	16(1)	16
2	16(2)	32
3	16(3)	48
4	16(4)	64

Example:

Input, x	1	2	3
Output, y	9	18	27

Equation: 9x=y

Input, x	0	1	2	3	4
Output, y	0	11	22	33	44

Equation: 11x=y

Input, x	1	2	3	4	5
Output, y	10	20	30	40	50

Equation: 10x=y

Graph Linear Equations: you can graph a function. If the graph **is a line**, the function is then called a **linear equation.** When graphing the function, the INPUT is the X-coordinate and the OUTPUT is the Y-coordinate.

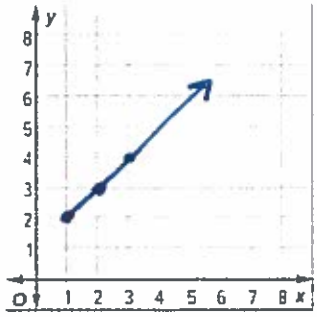
(input, output) (x,y)

Example: Graph y = x+1

X	X+1	Y	(X,Y)
1	1+1	2	(1,2)
2	2+1	3	(2,3)
3	3+1	4	(3,4)

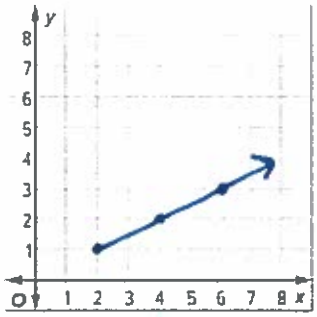
Step 1: Make a table of ordered pairs.
Select any three values for x.
Substitute these values for
x to find y.

Step 2: Graph each ordered pair.
Draw a line through each
point.



Graph: y = 0.5x

X	0.5x	Y	(X,Y)
2	0.5(2)	1	(2,1)
4	0.5(4)	2	(4,2)
6	0.5(6)	3	(6,3)



A fair charges an admission fee of $8. Each ride is an additional $2. The equation $y = 8 + 2x$ describes the total charge y for the number of rides x. Graph the function.

X	R	Y
1	8+2(1)	10
2	8+2(2)	12
3	8+2(3)	14
4	8+2(4)	16