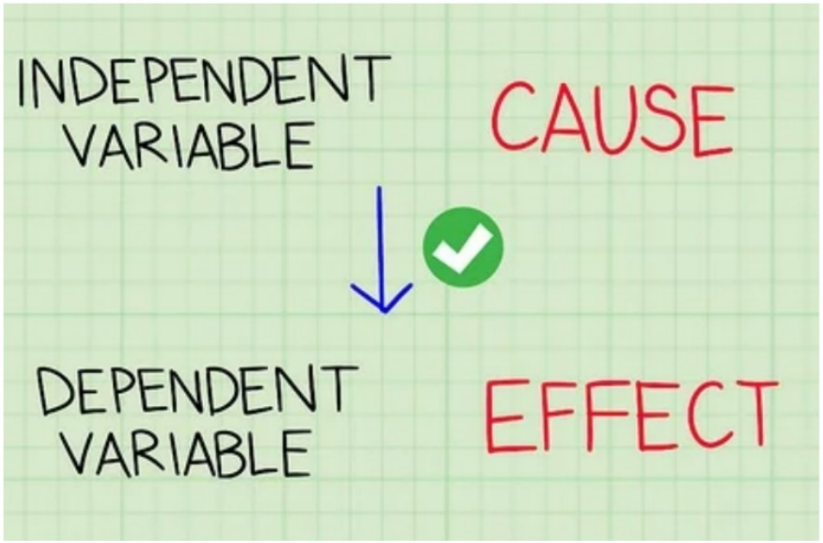
Functions - Day 2

Representing Linear Functions



Independent Variable

Does NOT depend on another variable for its value

Graphed on the x-axis

Dependent Variable

DEPENDS on the value of another variable

Graphed on the y-axis

Independent

- number of hours worked
- speed you were travelling
- pressure applied to gas pedal
- effort in class

Dependent

- amount of paycheck
- cost of speeding ticket
- speed of car
- grade in Enriched Algebra

Place each variable in the correct column.

Independent		Dependent
	Cell Phone Bill	
	How much air conditioning you use	
	How far you can drive	
	Winner of a football game	
	Minutes Used	
	Temperature	
	The amount of gas you have	
	Who scores more points	

Place each variable in the correct column.

Independent		Dependent
How much air conditioning you use		**Temperature**
Who scores more points		**Winner of a football game**
Minutes Used		**Cell Phone Bill**
The amount of gas you have		How far you can drive

Describing a function in words:

– make sure you give the starting point

– tell how much it is increasing or decreasing by each time

Graphing a function:

– independent variable goes on the x-axis
– dependent variable goes on the y-axis
– choose a good scale!

Writing a function as an equation:

– your equation must work for ALL points
– most equations will start $y =$

Describe the relationship using words, an equation, and a graph.

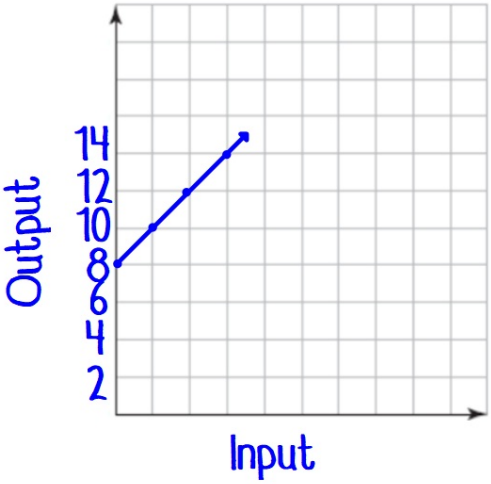
Input, x	0	1	2	3
Output, y	8	10	12	14

Describe the relationship using words, an equation, and a graph.

Input, x	0	1	2	3
Output, y	8	10	12	14

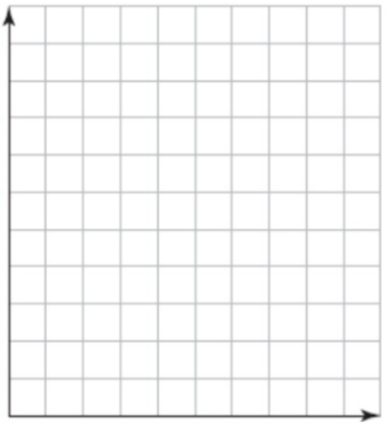
The function begins at 8 & goes up by 2 each time.

$y = 2x + 8$



Describe the relationship using words, an equation, and a graph.

# of photos	available memory (MB)
0	100
1	95
2	90
3	85

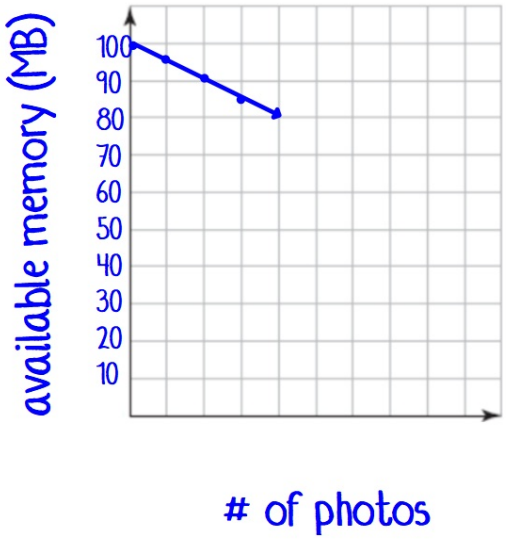


Describe the relationship using words, an equation, and a graph.

# of photos	available memory (MB)
0	100
1	95
2	90
3	85

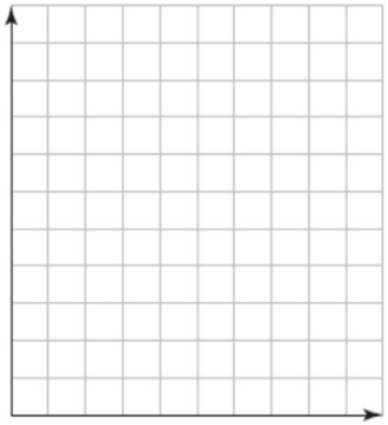
The available memory starts at 100 and decreases by 5 MB for each photo.

$y = 100 - 5x$



Describe the relationship using words, an equation, and a graph.

# of candy bars	Total Cost
0	0
1	2
2	4
3	6

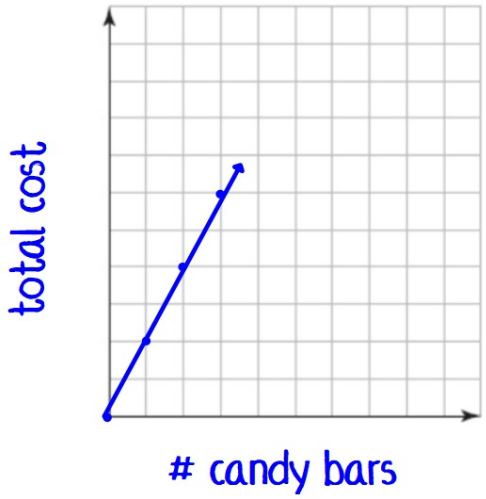


Describe the relationship using words, an equation, and a graph.

# of candy bars	Total Cost
0	0
1	2
2	4
3	6

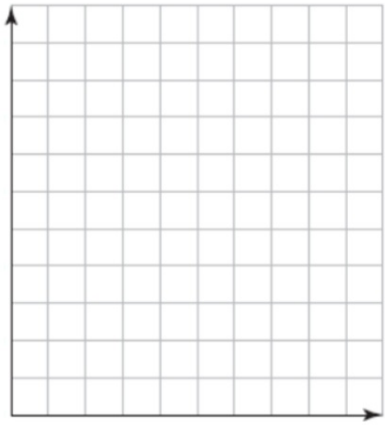
The total cost increases by $2 for each candy bar.

$y = 2x$



Describe the relationship using words, an equation, and a graph.

# of weeks buying snacks	Money left in account
2	40
4	30
6	20
8	10



Describe the relationship using words, an equation, and a graph.

# of weeks buying snacks	Money left in account
2	40
4	30
6	20
8	10

You start with $50 and spend $10 every 2 weeks on snacks.

OR

You start with $50 and spend $5 each week on snacks.

$y = 50 - 5x$