

Warm Up: Use the numbers on the right to complete both challenges.

Function (or Not) Puzzle

Challenge 1: Create 3 Functions

Challenge 2: Create 3 Non-Functions

x	y	x	y	x	y
2	-4	-1	4	4	-2
-4	4	2	0	3	-2
3	3	2	3	-2	0
3	4	1	-3	4	-2
1	3	-3	-1	4	3

-4	-3	-2
-1	0	1
2	3	4

Independent and Dependent Variables

A variable whose value depends on another variable is a **DEPENDENT** variable. A variable that does not depend on other variable is called **INDEPENDENT**.

Circle the statement below that is correct.

How far I can drive depends on the amount of fuel left in my car's tank. *****

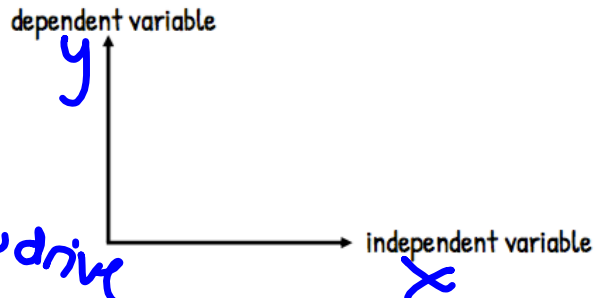
The amount of fuel left in my car's tank depends on how far I can drive.

Given that the dependent variable depends on the independent variable, identify the dependent and independent variables in this situation.

Dependent Variable: Distance you can drive
Independent Variable: fuel left in tank

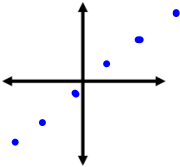
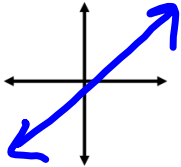
The independent variable is always graphed on the x-axis, and the dependent variable is always graphed on the y-axis.

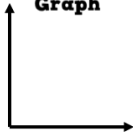

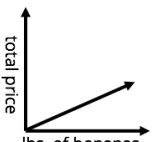
Sketch a graph below that represents the situation. Be sure to label the axes.


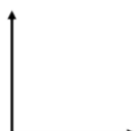


y depends on x

Original Statement	"Depends" Statement	Variables		Sketch a Graph
		Dependent Variable	Independent Variable	
Oil and natural gas is a major part of Oklahoma's economy. Oil and natural gas producers tend to pump more when oil and natural gas prices are higher and less when prices are lower.	amount pumped depends on price	amount pumped	price	
Drumright's Senior Class is planning an overnight trip to Six Flags which will require a hotel stay. The more students who go on the trip, the more hotel rooms they will need.	rooms depends on students	rooms	students	
On a road trip to Disney World, Billy asks, "Are we there yet?" His father answers, "The amount of time we have left to travel is based on the amount of time we have already traveled."	time left depends on time traveled	time left	time traveled	
Mrs. Carter begins baking brownies for Cookie Club at the last minute. The number of brownies that Mrs. Carter can bake is determined by how many sticks of butter are in her fridge.		brownies	butter	
Mr. Carter is creating a schedule for parent/teacher conferences. The length of each conference will be based on the number of parents who request a conference.		length	# of conferences	

Discrete	Continuous
Result Of... <i>counting</i>	Result Of... <i>measuring</i>
Can Take... <i>only certain values</i>	Can Take... <i>any value</i>
Looks Like... 	Looks Like... 
Examples: <i>people</i> <i>cat</i>	Examples: <i>ingredients</i> <i>price distance</i>

<p>Situation Student Council earns a profit of \$5 for each Homecoming Shirt sold.</p>	<p>Variables Dependent Independent</p>	<p>Sketch of Graph</p> 
<p>Situation</p>	<p>Variables Dependent Price of Hotel Stay Independent Number of Nights</p>	<p>Sketch of Graph</p> 
<p>Situation</p>	<p>Variables Dependent Independent</p>	<p>Sketch of Graph</p> 

<p>Situation Bob empties his swimming pool at a rate of 10 gallons per minute.</p>	<p>Variables Dependent Independent</p>	<p>Sketch of Graph</p> 
<p>Situation</p>	<p>Variables Dependent Height of Tree Independent Age of Tree</p>	<p>Sketch of Graph</p> 
<p>Situation</p>	<p>Variables Dependent Independent</p>	<p>Sketch of Graph</p> 