



Study Guide and Intervention

Graphing Functions

EXAMPLE 1 Make a function table for the rule $y = x + 2$. Use input values of $-2, 0,$ and 2 . Then graph the function.

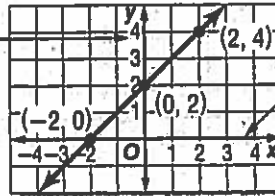
Step 1 Record the input and output in a function table. List the input and output as ordered pairs.

Input (x)	Function Rule ($x + 2$)	Output (y)	Ordered Pairs (x, y)
-2	$-2 + 2$	0	$(-2, 0)$
0	$0 + 2$	2	$(0, 2)$
2	$2 + 2$	4	$(2, 4)$

Step 2 Graph the ordered pairs on the coordinate plane.

Step 3 The points appear to lie on a line. Draw the line that contains these points. The line is the graph of $y = x + 2$.

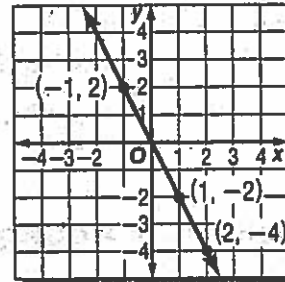
The y-coordinates represent the output values.



The x-coordinates represent the output values.

EXAMPLE 2 Make a function table for the graph. Then determine the function rule.

Input (x)	Output (y)	Ordered Pairs
-1	2	$(-1, 2)$
1	-2	$(1, -2)$
2	-4	$(2, -4)$



Input **Output**

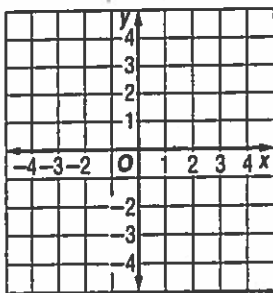
-1 $\times (-2)$ 2
 1 $\times (-2)$ -2
 2 $\times (-2)$ -4

-2 is multiplied by each input to get the output.
 The function rule is $y = -2x$.

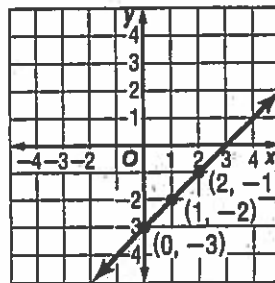
EXERCISES

1. Complete the function table. Then graph the function.

Input (x)	Output (y)
-1	
0	
1	



2. Make a function table for the graph. Then determine the function rule.

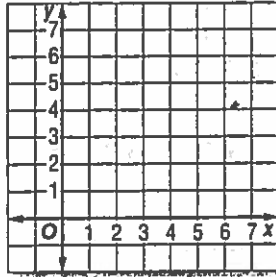


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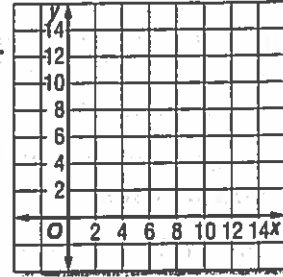
Practice: Word Problems

Graphing Functions

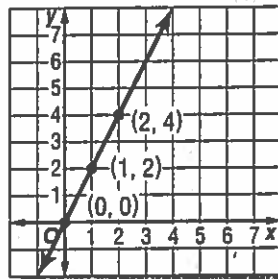
1. **LIBRARY** Tia visited the library 3 times. The first time, she spent 1 hour and checked out 4 books. Then she spent 2 hours and checked out 5 books. On her last visit, she spent 3 hours and checked out 6 books. Let the number of hours be the input and the number of books be the output. Graph the function.



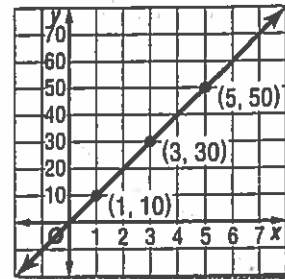
2. **CD RACK** A CD rack fits 3 CDs across. When one shelf is full, the shelf has 3 CDs on it. When two shelves are full, it has 6 CDs, and when three shelves are full it has 9 CDs. Let the number of full shelves be the input and the number of CDs be the output. Graph the function.



3. **TELEPHONE** Althea made a graph of how many friends call her after school. She let the number of hours that passed be the input and the number of people who called be the output. Look at her graph and determine the function rule.



4. **DOLPHINS** The more dolphins Toni uses in the dolphin show, the more people attend the show. She let the number of dolphins be the input and the number of attendees be the output, and made a graph of the function. Look at her graph and determine the function rule.



5. **BOTANY** Jessie planted a bean plant that was 2 inches tall. Each day it grew 1 inch. Tanya planted a bean plant that was 1 inch tall. It grew 2 inches per day. Write the function rule for each bean plant.

6. **BOTANY** Graph each function, from Exercise 5 on the same coordinate plane. What does the intersection of the two graphs represent?

