

Algebra 1

Chapter 4

Section 4-2

May 13-10:02 PM

Concepts

Dependent Variable (Output) *"y"* -- A variable whose value is dependent on another variable's value

Independent Variable (Input) *"x"* -- A variable whose value influences the value of another variable (dependent)

Ordered Pair -- Pair of values listed in parentheses "(x , y)"

Function -- A relationship between variables that pairs one input with exactly one output

Linear Function -- A function whose graph is a nonvertical line

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Review: Ordered Pair Solution

Is the ordered pair $(3, -1)$ a solution of the following?

$$3y - x = 0$$

$$3(-1) - 3 = 0$$

$$-3 - 3 = 0$$

$$-6 \neq 0$$

Not a
Solution

$$y = 2x - 7$$

$$-1 = 2 \cdot 3 - 7$$

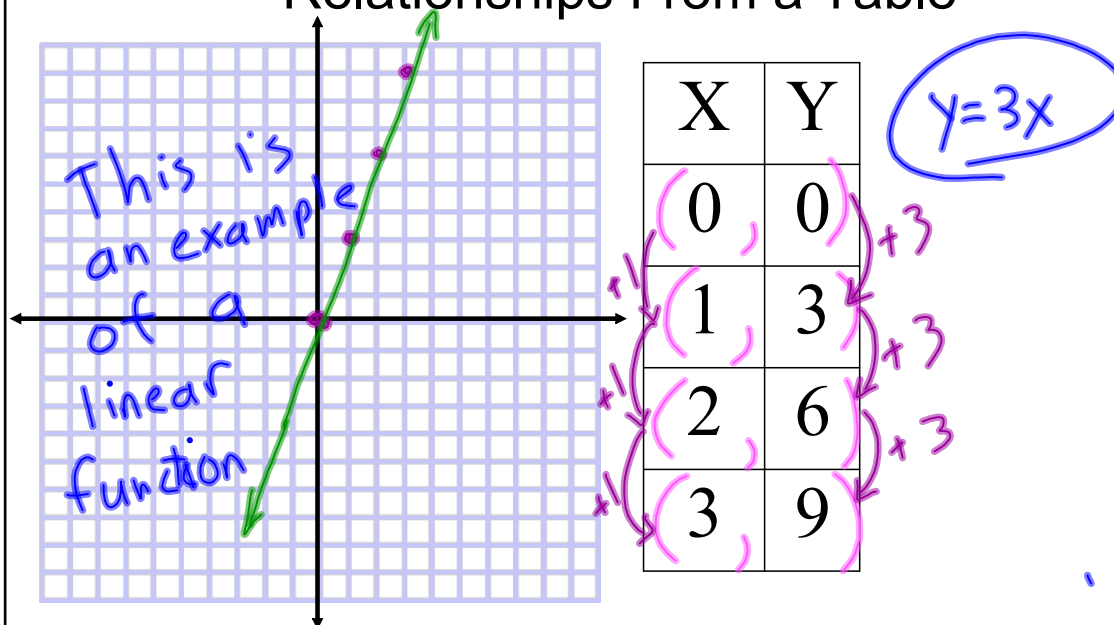
$$-1 = 6 - 7$$

$$-1 = -1$$

Yes, $(3, -1)$ is a
solution

Oct 30-11:23 AM

Relationships From a Table



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Equation Relationship From a Table

X	Y
1	4
2	9
3	14
4	19

$y = 5x - 1$

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Equation Relationship From a Table

X	Y
0	5
1	9
2	13
3	17

$y = 4x + 5$

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What is the relationship between the number of rectangles and the perimeter of the outer figure?

Rectangles x	Perimeter y	Ordered Pair (x,y)
1	14	(1,14)
2	16	(2,16)
3	18	(3,18)
4	20	(4,20)

$y = 2x + 12$

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Using a Ratio

A recipe to bake two dozen muffins calls for five eggs. Represent the relationship between muffins made, y, and eggs used, x, in a table and an equation. (solve the equation for y)

x	y
5	24
10	48
15	72
20	96

$5y = 24x$
 $\frac{5y}{5} = \frac{24x}{5}$
 $y = \frac{24}{5}x$

$y = \frac{24}{5} \cdot 5$
 $y = 24$

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Using a Ratio

For every fifty people who favorite a certain celebrity's tweet, she will donate \$100 to a children's research hospital. Represent the relationship between favorites, x , and money donated, y , in a table and an equation. (solve the equation for y)

x	y
50	100
100	200
150	300

$$\frac{50}{x} = \frac{100}{y}$$

$$y = 2x$$

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