

Creating Equations with Two or More Variables - Guided Lesson Explanation

Explanation#1

Linear functions are of the form $y = mx + b$

First find m . Look at the table and notice that every time the x terms go up by 1, the y terms go up by 1. This means that m is equal to 1.

Find the value of b .

$$y = mx + b$$

$$3 = 1(11) + b \quad \text{plug in } m=1, x=11, y=3$$

$$3 = 11 + b$$

$$b = -8$$

$$y = mx + b$$

$$y = 1x - 8$$

Based on this our equation is:

$$y = x - 8$$

Let's verify this by placing the given values in and see if they are equal.

Plug in (12, 4)

$$y = x - 8$$

$$4 = 12 - 8$$

Plug in (13, 5)

$$y = x - 8$$

$$5 = 13 - 8$$

Plug in (14, 6)

$$y = x - 8$$

$$6 = 14 - 8$$

All givens are verified.

Explanation#2

First find m . Look at the table and notice that every time the x terms go up by 1, the y terms go up by 1. This means that m is equal to 1.

$$y = mx + b$$

$$31 = 1(16) + b \quad \text{plug in } m=1, x=16, y=31$$

$$31 = 16 + b$$

$$b = 15$$

$$y = mx + b$$



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$$y = 1x + 15$$

$$y = x + 15 \quad \text{This is our equation.}$$

Verify that the givens are true.

Plug in (17, 32)

$$y = x + 15$$

$$32 = 17 + 15$$

$$32 = 32$$

Plug in (18, 33)

$$y = x + 15$$

$$33 = 18 + 15$$

$$33 = 33$$

Plug in (19, 34)

$$y = x + 15$$

$$34 = 19 + 15$$

$$34 = 34$$

All givens are verified.

Explanation#3

Day(d)	Calculation of length knit (l)	Length knit(l)
0	$10(0) + 10$	10
3	$10(3) + 10$	40
4	$10(4) + 10$	50
d	$10(n) + 10$	$10d + 10$

Find the pattern: is 10 times d, plus 10.

Write this relationship as an equation.

l is 10 times d, plus 10

$$l = 10d + 10$$

