6.7 Graphing Linear Equations

Thursday, February 18, 2016   9:30 AM

6 7 Graphing Linear Relations Notes blank

6.7 Graphing Linear Relations
*Name*_____ _____   ~~straight line~~ → straight line

The steps for graphing a linear relation are:

1. Write a ___relation___ for the problem. (x and y are related somehow)

2. Make a ___table of values___.

3. ___Graph___ the relation including: a ___Title___, axis ___labels___ & accurate and equal ___scale___.

Example

Graph the relation $y = -3x + 9$.

$y = -3x + 9$
$= -3(0) + 9$
$= 0 + 9$
$= 9$

$y = -3(1) + 9$
$= -3 + 9$
$= 6$

x	y
0	9
1	6
2	3
3	0
4	-3
5	-6

Graph of $y = -3x + 9$
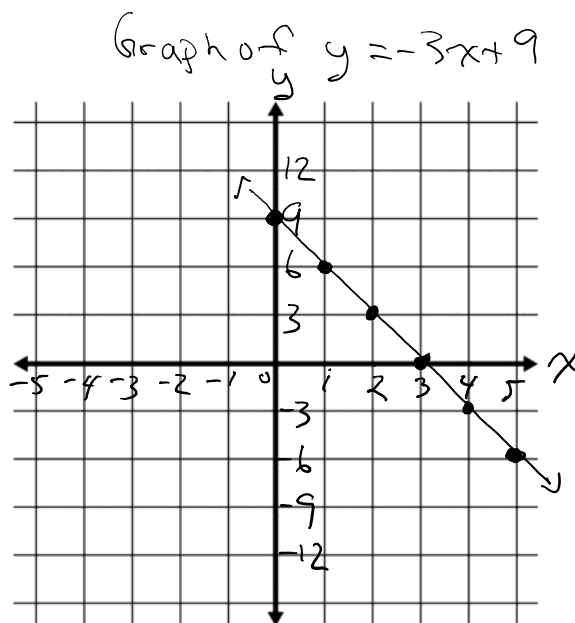
Try This

Sylvia works at a garden nursery. She is paid $6 for every tray of tomatoes she plants. Write an equation that relates Sylvia's pay to the number of trays she ~~pants~~ plants, create a table of values, and graph the relation.

Let __n__ represent the number of tomato plants. (This is our input or _x_.)

Let __p__ represent the money paid to Sylvia. (This is your output or _y_.)

So an equation is: $\boxed{p = 6n}$ ← relation

Make a table of values.

n(x)	p(y)
0	0
3	18
6	36
9	54
12	72

$p = 6(0)$ $n = 3$ $n = 6$
$= 0$ $p = 6(3)$ $p = 6(6)$ etc...
$= 18$ $= 36$

Money Sylvia makes planting Tomatoes.

P (y)

80
70
60
50
40
30
20
10
0

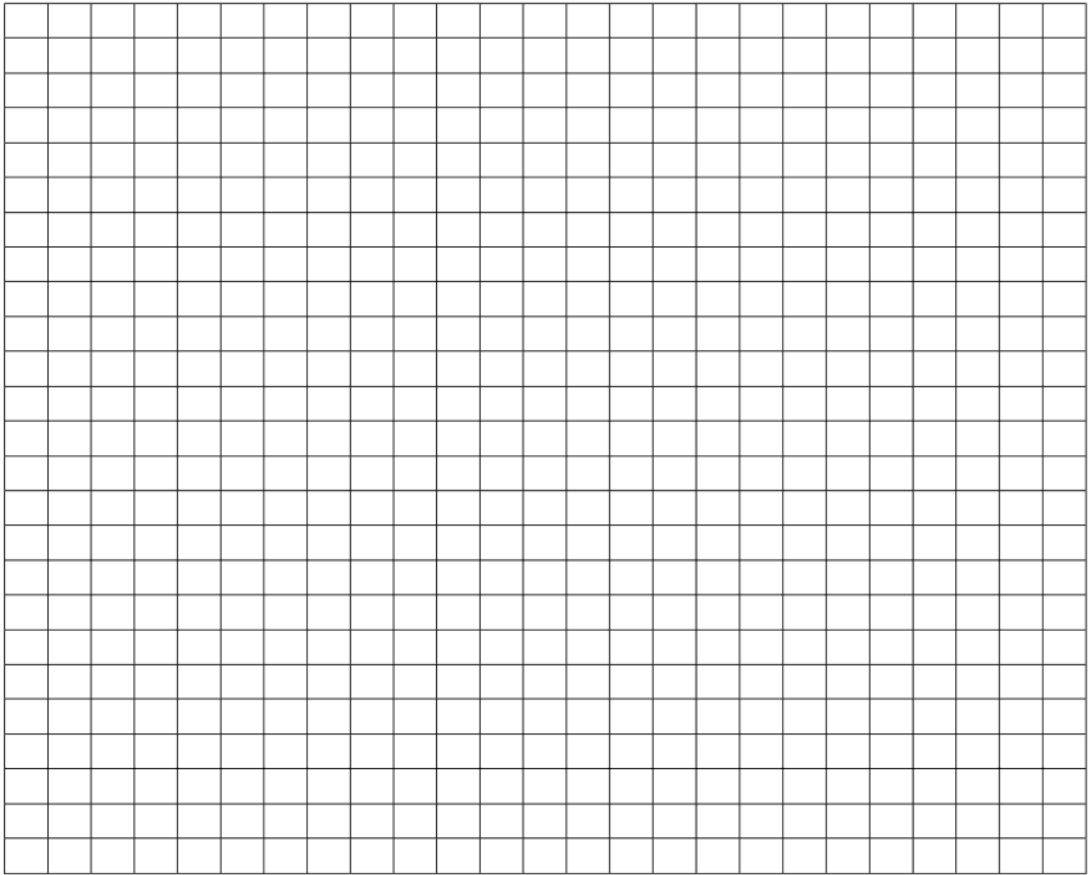0   2   4   6   8   10   12

n (x)
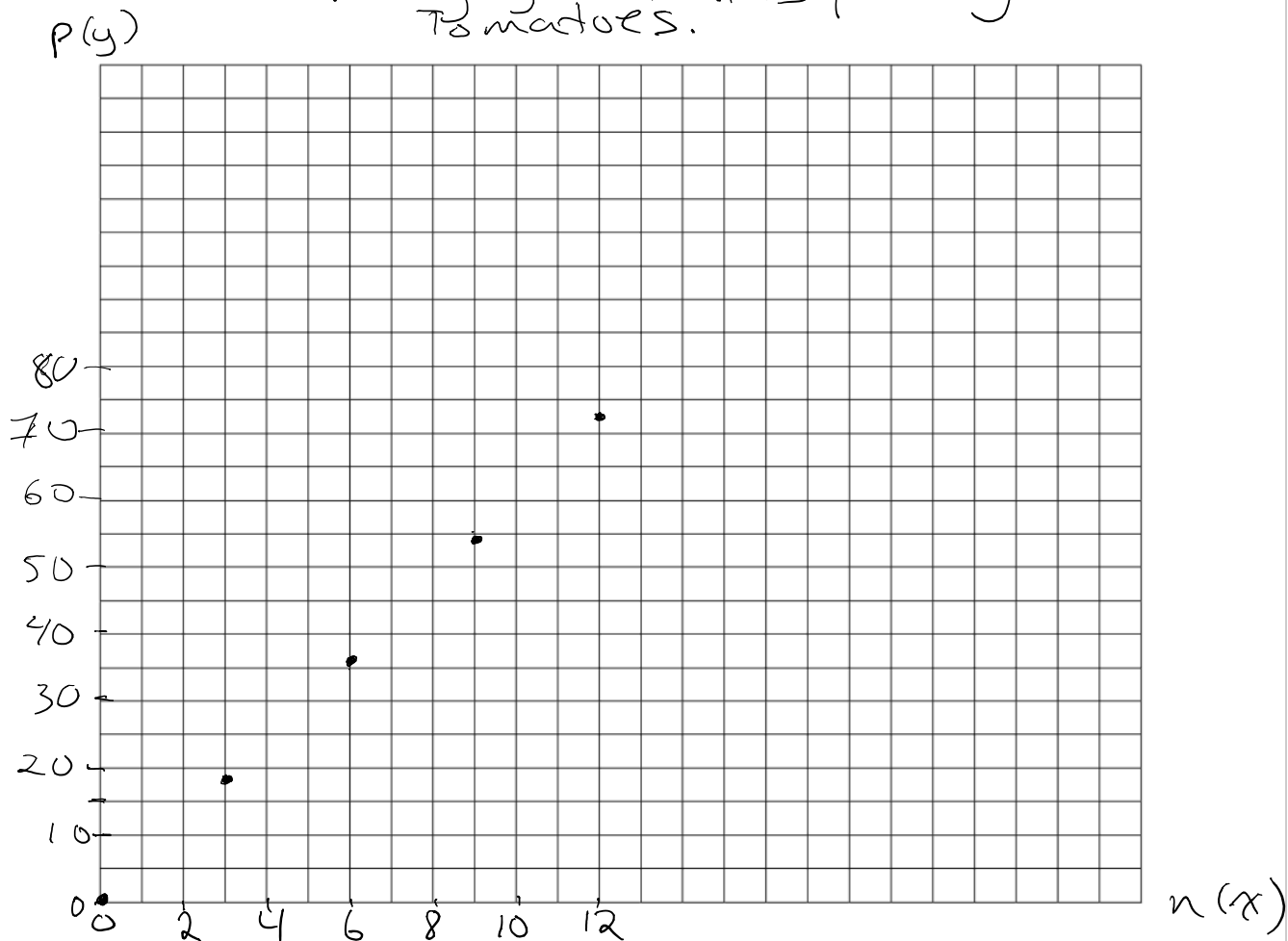
When the points lie on a straight line, we say the relation is linear.

Since Sylvia only gets paid for whole number of trays planted, we do not join the points.
This data is _discrete_ ← we don't connect our points with a line!

When data is discrete, there are numbers between those given that are not meaningful in the context of the problem.

Assignment: p.363 # 4, 5ae, 6abcd, 8, 11

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When the points lie on a straight line, we say the relation is _____.

Since Sylvia only gets paid for whole number of trays planted, we do _____ join the points. This data is _____.

When data is discrete, there are numbers between those given that are _____ in the context of the problem.