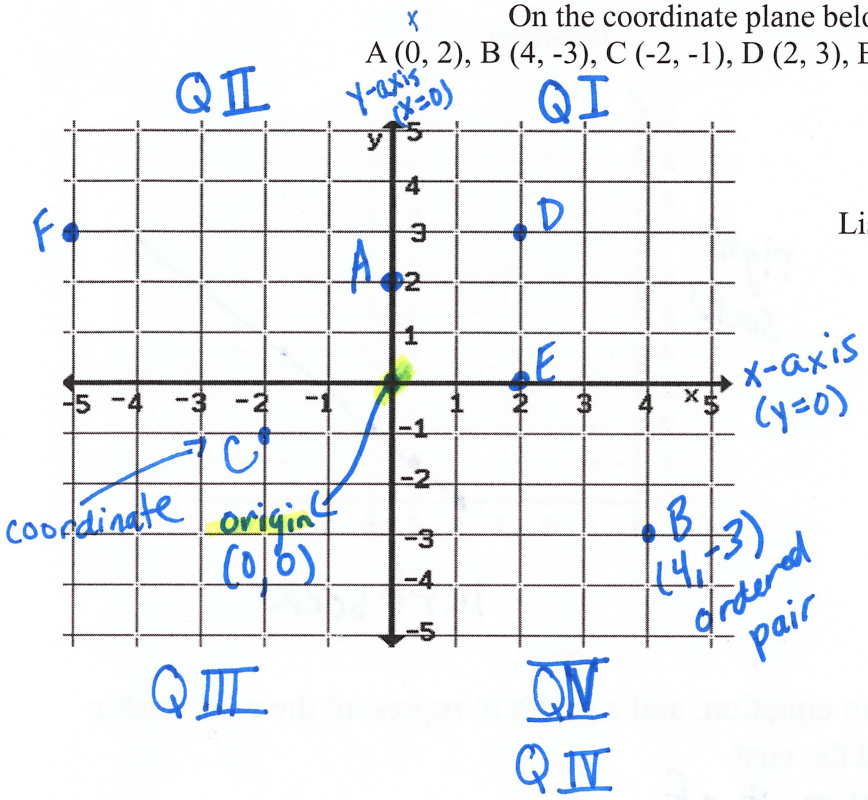
Unit 3: day 1: Plotting points Name: _____

Objective: I can determine if an ordered pair is a solution set. I can represent two-variable relationships in three ways.

To graph a point in the coordinate plane start at the origin. Look first at the x coordinate. If the x coordinate is positive, move that many spaces to the right. If the x coordinate is negative, move that many spaces to the left. From your x coordinate location look at the y coordinate. If the y coordinate is positive, go up that many spaces. If the y coordinate is negative, go down that many spaces.

On the coordinate plane below, graph
A (0, 2), B (4, -3), C (-2, -1), D (2, 3), E (2, 0) and F (-5, 3).



List the quadrant that each point is in:

A: y-axis

B: IV

C: III

D: I

E: x-axis

F: II

Solution of an equation in 2-variables: is an ordered pair (x, y) that makes the equation true

ie) (1, 2) $x + y = 3$ → $1 + 2 = 3$ ✓ yes

Is the given ordered pair a solution?

Ex 1) $y = 3x$; $(5, 15)$

$15 = 3(5)$

$15 = 15$ ✓

yes

Ex 2) $2x + y = 4$; $(-1, -2)$

$2(-1) + (-2) = 4$

$-2 + (-2)$

$-4 \neq 4$

No

Ex 3) $x = 3 + y$; $(5, 2)$

$5 = 3 + 2$

$5 = 5$

yes

Any relationship between two variables can be represented in different ways.
You have 4 more left socks than right socks. How can you represent the relationship between the number of left and right socks in three different ways?

y = right x = left

(1) Equation:

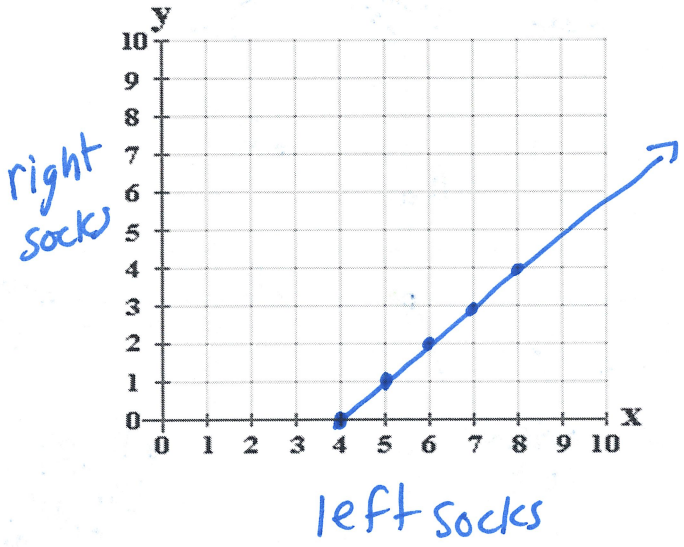
$y = x - 4$

(2) Table:

left right

x	y = x − 4	y	(x, y)
4	y = 4 − 4	0	(4, 0)
5	y = 5 − 4	1	(5, 1)
6	y = 6 − 4	2	(6, 2)
7	y = 7 − 4	3	(7, 3)
8	y = 8 − 4	4	(8, 4)

(3) Graph:



(Whiteboard example)
Soda at the fair cost $2.50. Use a table, an equation, and a graph to represent the relationship between the number of sodas bought and the cost.

(1) Equation: y = cost x = # of sodas

$y = 2.50x$

(2) Table:

x	y = 2.50x	y	(x, y)
0	y = 2.50(0)	0	(0, 0)
1	y = 2.50(1)	2.50	(1, 2.50)
2	y = 2.50(2)	5	(2, 5)
3	y = 2.50(3)	7.50	(3, 7.50)
4	y = 2.50(4)	10	(4, 10)

(3) Graph: