Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples

Equations as Functions

- Functions can also be represented by an equation (or rule).
- The equation will generate ordered pairs by taking an input (x) that results in a certain output.
- The x-value is always called the independent variable.
- The y-value is always called the dependent variable.
- The graph of an equation is the set of all its ordered pairs, which often form a line or a curve.

Function Tables

Directions: Complete each function table.

1. $y = x + 7$

x		y	(x, y)
-1	-1 +7	6	(-1,6)
0	0 +7	7	(0,7)
2	2+7	9	(2,9)
4	4 +7	11	(4,11)

2. $y = x - 13$

x		y	(x, y)
3	3-13	-10	(3,-10)
6	6-13	-7	(6,-7)
9	9-13	-4	(9,-4)
12	12-13	-1	(12,-1)

3. $y = 1 - x$

x		y	(x, y)
-5	1-(-5)	6	(-5,6)
-4	1-(-4)	5	(-4,5)
-3	1-(-3)	4	(-3,4)
-2	1-(-2)	3	(-2,3)

4. $y = 2x - 7$

x		y	(x, y)
0	2(0)-7	-7	(0,-7)
2	2(2)-7	-3	(2,-3)
5	2(5)-7	3	(5,3)
8	2(8)-7	9	(8,9)

5. $y = \frac{1}{2}x - 9$

x		y	(x, y)
-6	$\frac{1}{2}(-6)-9$	-12	(-6,-12)
-2	$\frac{1}{2}(-2)-9$	-10	(-2,-10)
0	$\frac{1}{2}(0)-9$	-9	(0,-9)
14	$\frac{1}{2}(14)-9$	-2	(14,-2)

6. $y = -\frac{4}{3}x + 11$

x		y	(x, y)
-9	$-\frac{4}{3}(-9)+11$	23	(-9,23)
-3	$-\frac{4}{3}(-3)+11$	15	(-3,15)
3	$-\frac{4}{3}(3)+11$	7	(3,7)
6	$-\frac{4}{3}(6)+11$	3	(6,3)

Directions: Given each function and domain, find the range values.

7. $y = x - 5$; domain = {4, 6, 8}

$y = 4 - 5$
$y = -1$

$y = 8 - 5$
$y = 3$

$y = 6 - 5$
$y = 1$

range = {-1, 1, 3}

8. $y = 3x + 1$; domain = {-1, 0, 1}

$y = 3(-1) + 1$
$y = -2$

$y = 3(0) + 1$
$y = 1$

$y = 3(1) + 1$
$y = 4$

range = {-2, 1, 4}

9. $y = -2x + 5$; domain = {-2, 2, 4}

$y = -2(-2) + 5$
$y = 9$

$y = -2(2) + 5$
$y = 1$

$y = -2(4) + 5$
$y = -3$

range = {-3, 1, 9}

10. $y = -4 - x$; domain = {-6, 2, 7}

$y = -4 - (-6)$
$y = 2$

$y = -4 - 2$
$y = -6$

$y = -4 - 7$
$y = -11$

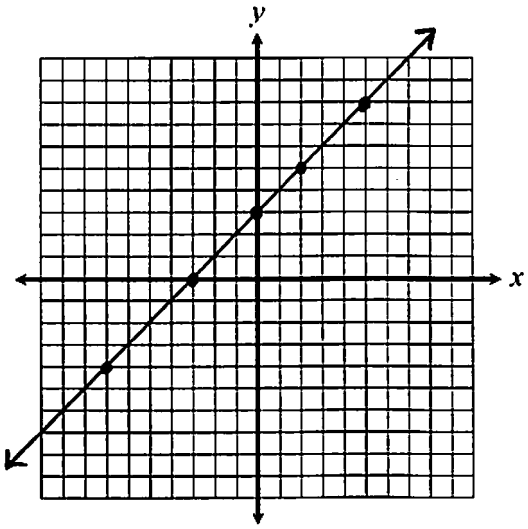
range = {-11, -6, 2}

Types of Functions

Directions: Complete each function table. Then graph the function.

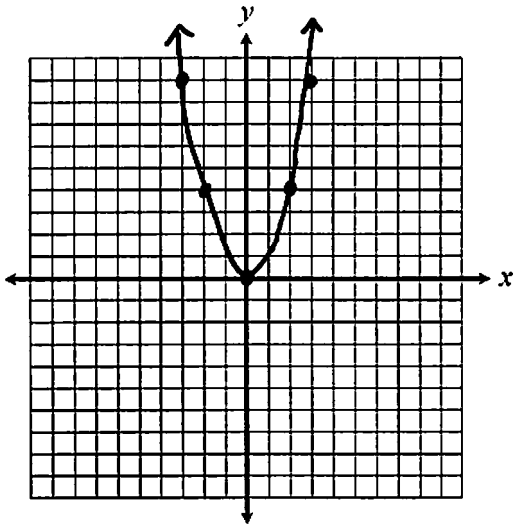
Equation 1: $y = x + 3$

x		y	(x, y)
-7	-7+3	-4	(-7, -4)
-3	-3+3	0	(-3, 0)
0	0+3	3	(0, 3)
2	2+3	5	(2, 5)
5	5+3	8	(5, 8)



Equation 2: $y = x^2$

x		y	(x, y)
-3	$(-3)^2$	9	(-3, 9)
-2	$(-2)^2$	4	(-2, 4)
0	$(0)^2$	0	(0, 0)
2	$(2)^2$	4	(2, 4)
3	$(3)^2$	9	(3, 9)



- The first equation produced a line, so it is called a linear equation.
- The second equation produced a curve, so it is called a quadratic equation.
- We will focus on graphing linear equations in this unit!

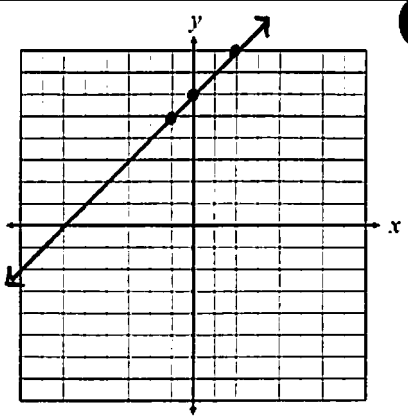
GRAPHING LINEAR EQUATIONS

{Using a Table!}

Directions: Complete each table, then graph the equation.

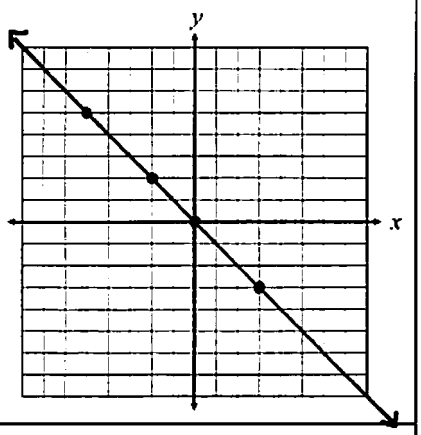
1 $y = x + 6$

x	y
-1	5
0	6
2	8
4	10



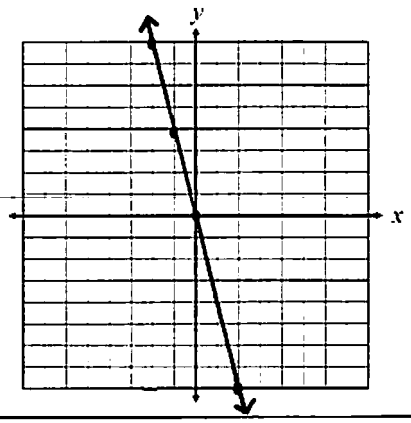
2 $y = -x$

x	y
-5	5
-2	2
0	0
3	-3



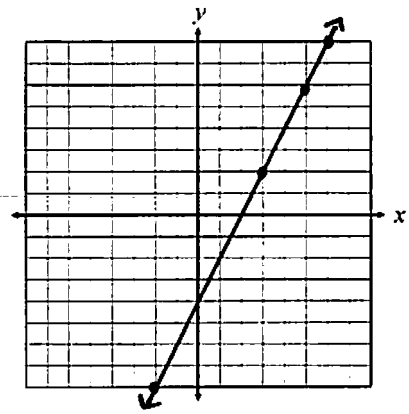
3 $y = -4x$

x	y
-2	8
-1	4
0	0
2	-8



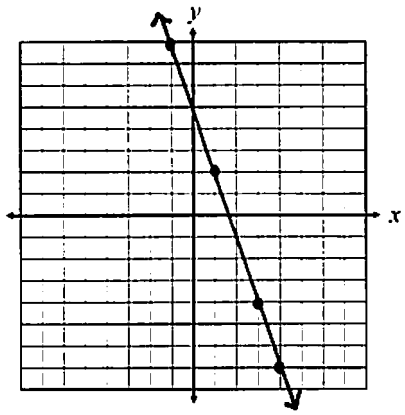
4 $y = 2x - 4$

x	y
-2	-8
3	2
5	6
6	8



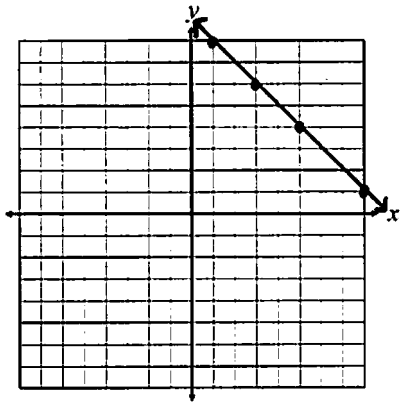
5 $y = -3x + 5$

x	y
-1	8
1	2
3	-4
4	-7



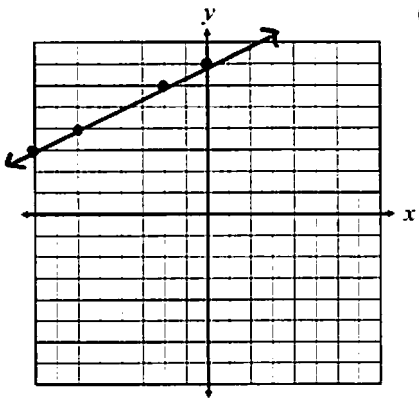
6 $y = -x + 9$

x	y
1	8
3	6
5	4
8	1



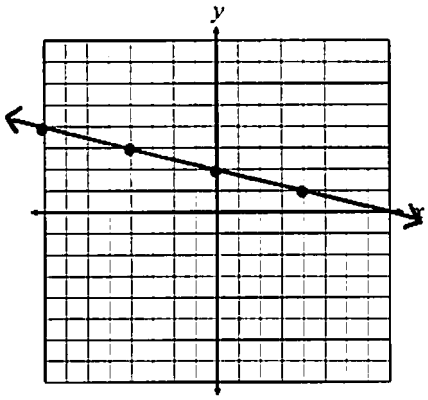
7 $y = \frac{x}{2} + 7$

x	y
-8	3
-6	4
-2	6
0	7



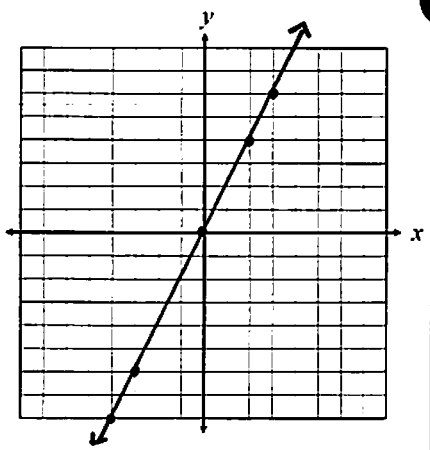
8 $y = -\frac{1}{4}x + 2$

x	y
-8	4
-4	3
0	2
4	1



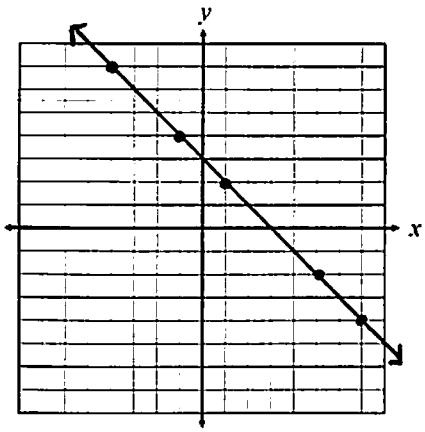
9 $y = 2x$

x	y
-4	-8
-3	-6
0	0
2	4
3	6



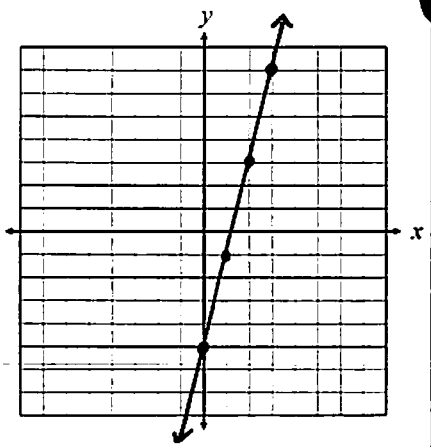
10 $y = 3 - x$

x	y
-4	7
-1	4
1	2
5	-2
7	-4



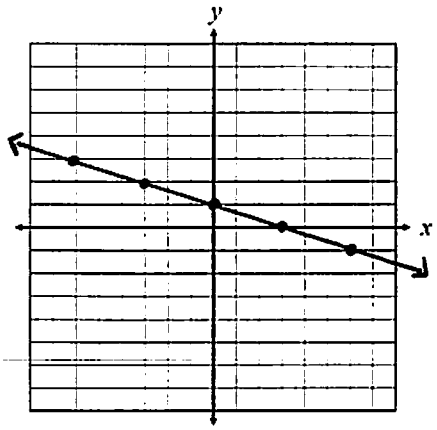
11 $y = 4x - 5$

x	y
-1	-9
0	-5
1	-1
2	3
3	7



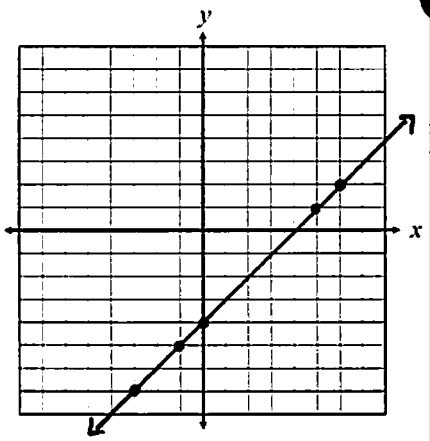
12 $y = 1 - \frac{x}{3}$

x	y
-6	3
-3	2
0	1
3	0
6	-1



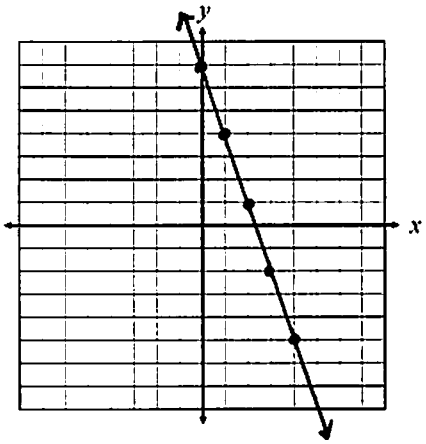
13 $y = x - 4$

x	y
-3	-7
-1	-5
0	-4
5	1
6	2



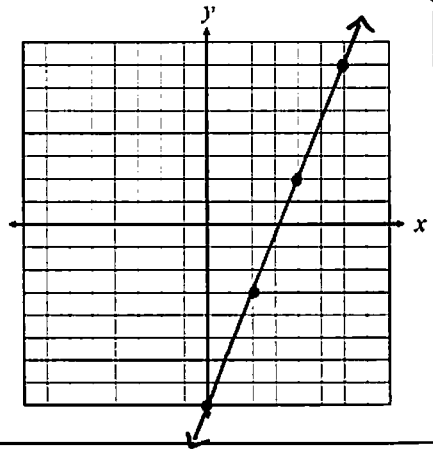
14 $y = 7 - 3x$

x	y
0	7
1	4
2	1
3	-2
4	-5



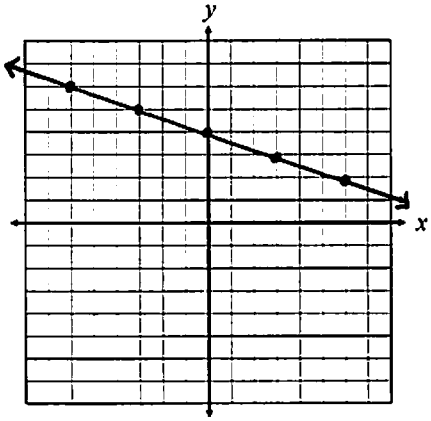
15 $y = \frac{5}{2}x - 8$

x	y
0	-8
2	-3
4	2
6	7
8	12



16 $y = 4 - \frac{1}{3}x$

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



Name: _____ **Unit 5:** Functions & Linear Relationships

Date: _____ **Per:** _____ **Homework 2:** Graphing Linear Equations (by table

**** This is a 2-page document! ****

Directions: Given each function and domain, find the range values.

1. $y = 5x - 9$; domain = {1, 3, 7}

$y=5(1)-9$
$y=-4$

$y=5(3)-9$
$y=6$

$y=5(7)-9$
$y=26$

range = {-4, 6, 26}

2. $y = x^2 - 2x$; domain = {-3, 0, 5}

$y=(-3)^2-2(-3)$
$y=15$

$y=(0)^2-2(0)$
$y=0$

$y=(5)^2-2(5)$
$y=15$

range = {0, 15}

3. $y = \frac{3}{4}x + 7$; domain = {-8, -4, 12}

$y=3/4(-8)+7$
$y=1$

$y=3/4(-4)+7$
$y=4$

$y=3/4(12)+7$
$y=16$

range = {1, 4, 16}

4. $y = 14 - 3x$; domain = {-6, 5, 13}

$y=14-3(-6)$
$y=32$

$y=14-3(5)$
$y=-1$

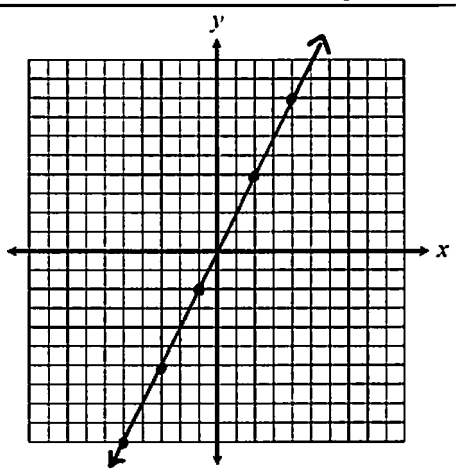
$y=14-3(13)$
$y=-25$

range = {-25, -1, 32}

Directions: Complete each table, then graph the equation.

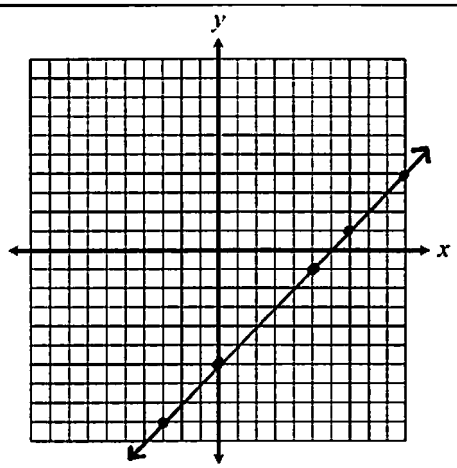
5. $y = 2x$

x	y
-5	-10
-3	-6
-1	-2
2	4
4	8



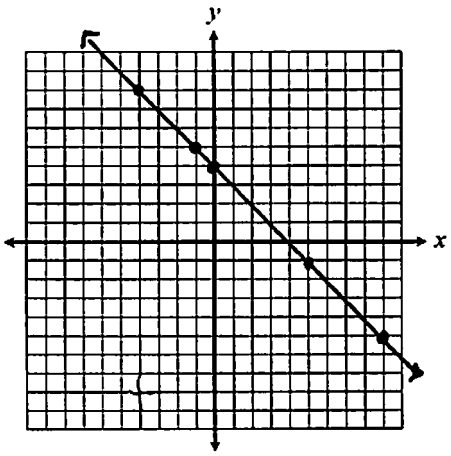
6. $y = x - 6$

x	y
-3	-9
0	-6
5	-1
7	1
10	4



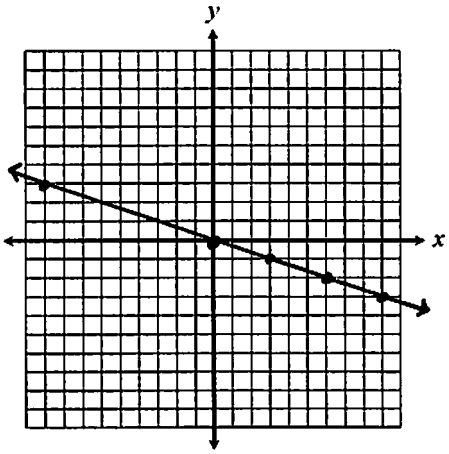
7. $y = 4 - x$

x	y
-4	8
-1	5
0	4
5	-1
9	-5



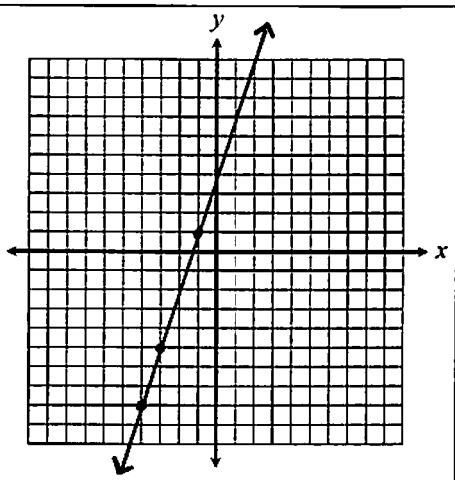
8. $y = -\frac{1}{3}x$

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



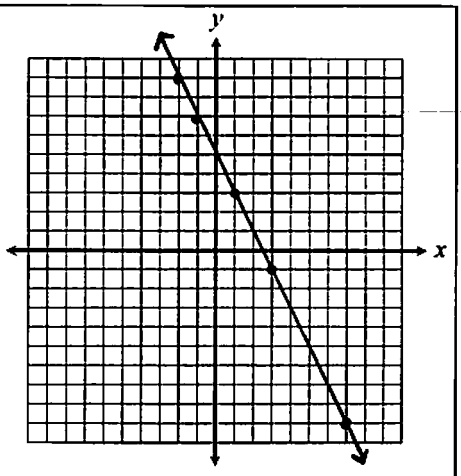
9. $y = 3x + 4$

x	y
-4	-8
-3	-5
-1	1
5	19
9	31



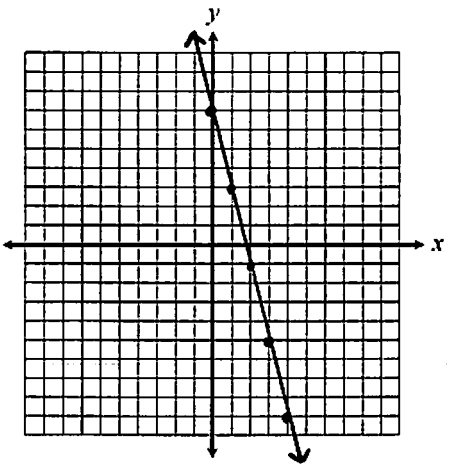
10. $y = -2x + 5$

x	y
-2	9
-1	7
1	3
3	-1
7	-9



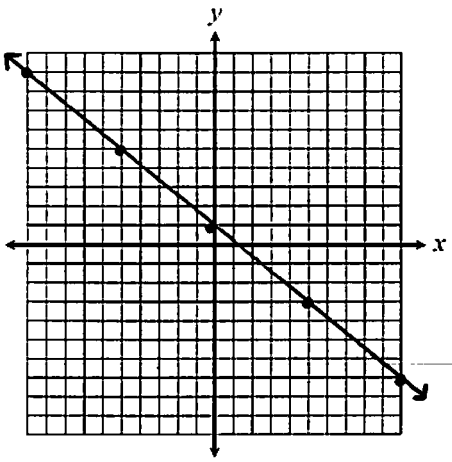
11. $y = 7 - 4x$

x	y
0	7
1	3
2	-1
3	-5
4	-9



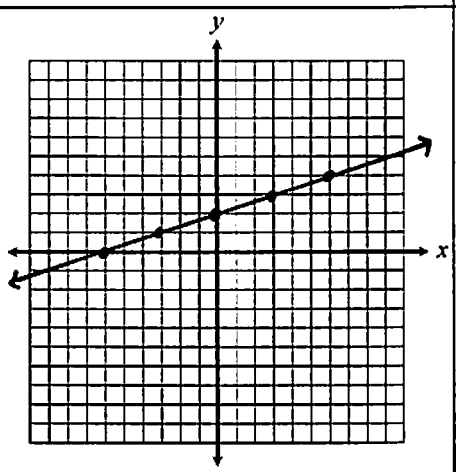
12. $y = -\frac{4}{5}x + 1$

x	y
-10	9
-5	5
0	1
5	-3
10	-7



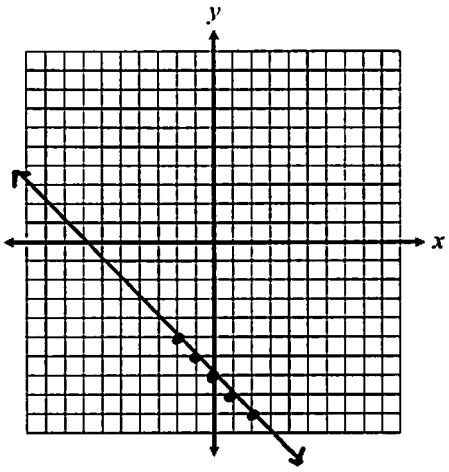
13. $y = \frac{x}{3} + 2$

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



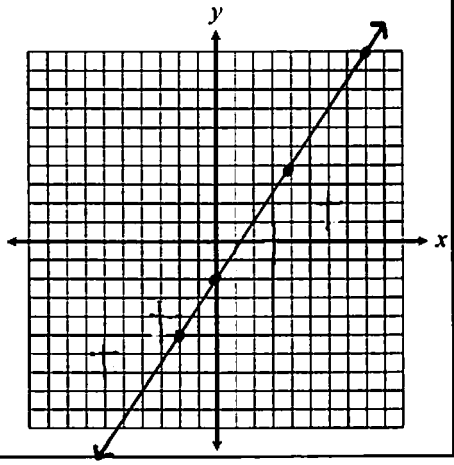
14. $y = -7 - x$

x	y
-2	-5
-1	-6
0	-7
1	-8
2	-9



15. $y = \frac{3}{2}x - 2$

x	y
-6	-11
-2	-5
0	-2
4	4
8	10



16. $y = 5 - \frac{1}{4}x$

x	y
-8	7
-4	6
0	5
4	4
8	3