WS 5 Solutions

1. For each linear relation. a) Create a table of values for each using x = -2, -1, 0, 1, 2, 3 b) Graph each equation (On own GRAPH paper)c) Describe the relationship between the variables in each graph.

i) y = -5x + 3

x = -2
y = -5 x +3
= -5(-2) +3
= 10 + 3
= 13
(-2, 13)

x = -1
y = -5 x +3
= -5(-1) +3
= 5 + 3
= 8
(-1, 8)

x = 0
y = -5 x +3
= -5(0) +3
= 0 + 3
= 3
(0, 3)

x	y
-2	13
-1	8
0	3
1	-2
2	-7
3	-12

As x increases by 1, y decreases by 5.

ii) y = 3x - 2

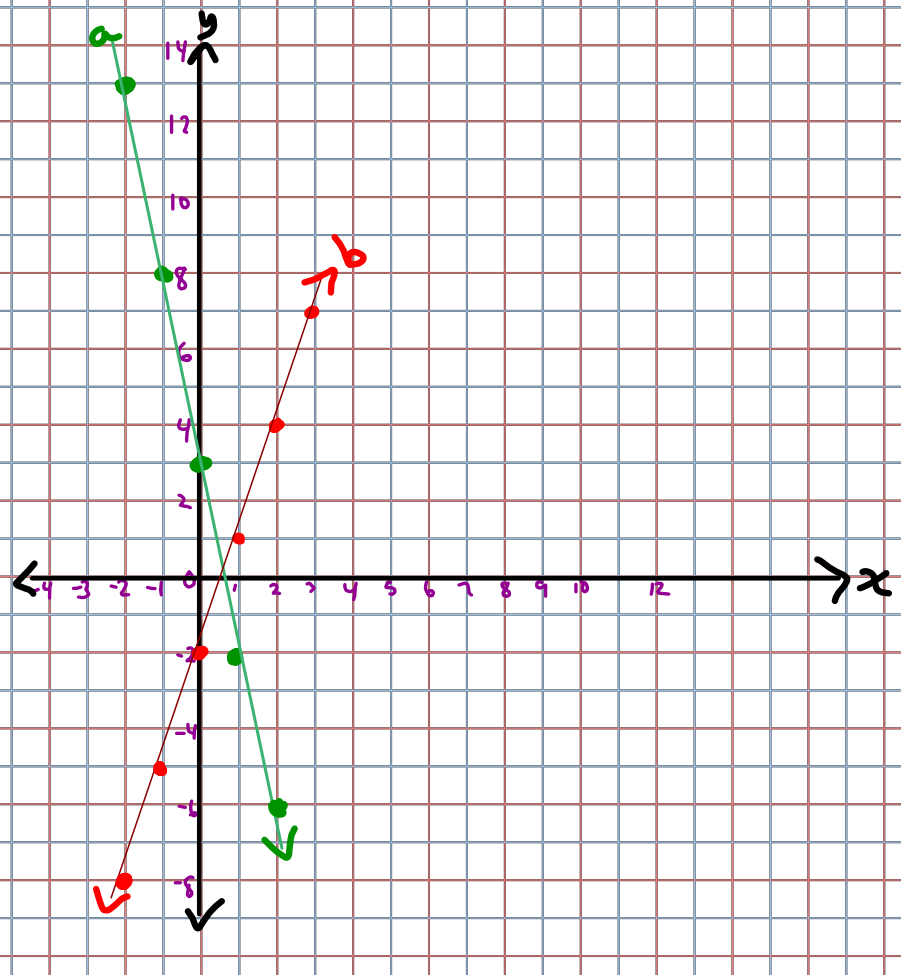
x = -2
y = 3 x -2
= 3(-2) - 2
= -6 - 2
= -8
(-2, -8)

x = -1
y = 3 x -2
= 3(-1) - 2
= -3 - 2
= -5
(-1, -5)

x = 0
y = 3 x -2
= 3(0) - 2
= 0 - 2
= -2
(0, -2)

x	y
-2	-8
-1	-5
0	-2
1	1
2	4
3	7

As x increases by 1, y increases by 3



1. A car rental company charges a base fee of $15 plus $5 per hour of rental. The equation for the total cost is:

C = 15 + 5h, where h represents the number of hours rented, and C represents the total cost.

a) Create a table of values for h = 0, 1, 2, 3, 4, 5.

b) Graph the relation.

c) Can you connect the dots? Why or why not

c) Describe the relationship between the variables in the graph.

d) Find the ordered pair on the graph that shows the total cost when the car is rented for 4 hours.

a)

h	C
0	15
1	20
2	25
3	30
4	35
5	40

$C = 15 + 5h$

$h = 0$: $15 + 5(0)$, $15 + 0$, 15

$h = 1$: $15 + 5(1)$, $15 + 5$, 20

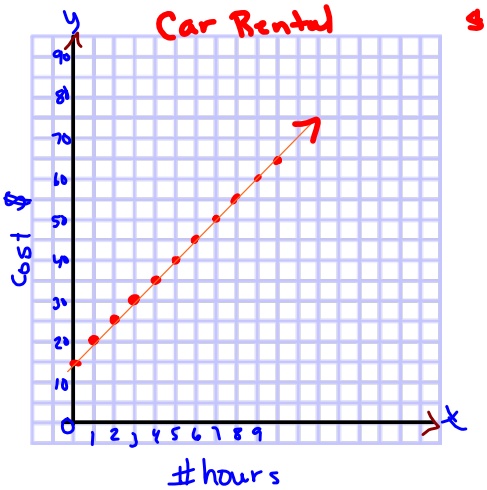
$h = 2$: $15 + 5h$, $15 + 5(2)$, $15 + 10$, 25

c) Can connect dots since you can have part of cost and time

d) As the # hours increases by 1, the cost increases by $5.

e) $4 = h$ $C = 15 + 5h$, $15 + 5(4)$, $15 + 20$, $35

To rent a car for 4 hours it would cost $35.



1. Given y = 7x + 2 find the missing term below (Show work)

1. (5, _____) b) (-8, ____) c) (_____, 100)

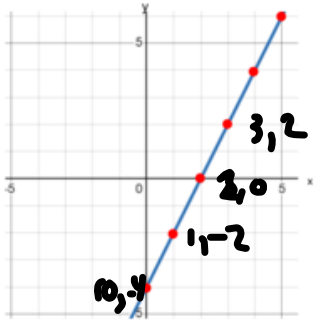
$y = 7x + 2$
$y = 7(5) + 2$
$y = 35 + 2$
$y = 37$
$(5, 37)$

$y = 7x + 2$
$y = 7(-8) + 2$
$y = -56 + 2$
$y = -54$
$(-8, -54)$

$y = 7x + 2$
$100 = 7x + 2$
$100 - 2 = 7x + 2 - 2$
$98 = 7x$
$\div 7 \quad \div 7$
$14 = x$
$(14, 100)$

4) Given the following graph, describe the relationship between x and y. (Hint table of values)

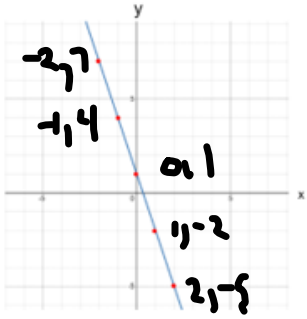
a)



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

As x increases by 1, y increases by 2.

b)



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

As x increases by 1, y decreases by 3.

5) Graph each of the following relations on your own graph paper for integer values of x from -3 to 3. Create a table of values and show work for the first three entries.

a) $y = x + 2$
b) $y = -x + 4$
c) $y = -3x + 6$
d) $y = 2x - 1$

a) $x = -3$: $y = x + 2 = -3 + 2 = -1$, $(-3, -1)$

$x = -2$: $y = x + 2 = -2 + 2 = 0$, $(-2, 0)$

$x = -1$: $y = x + 2 = -1 + 2 = 1$, $(-1, 1)$

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

b) $y = -x + 4$

$x = -3$: $y = -(x) + 4 = -(-3) + 4 = 3 + 4 = 7$

$x = -2$: $y = -(x) + 4 = -(-2) + 4 = 2 + 4 = 6$

$x = -1$: $y = -(x) + 4 = -(-1) + 4 = 1 + 4 = 5$

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

c) $y = -3x + 6$

$x = -3$: $y = -3(x) + 6 = -3(-3) + 6 = 9 + 6 = 15$, $(-3, 15)$

$x = -2$: $y = -3(x) + 6 = -3(-2) + 6 = 6 + 6 = 12$, $(-2, 12)$

$x = -1$: $y = -3(x) + 6 = -3(-1) + 6 = 3 + 6 = 9$, $(-1, 9)$

x	y
-3	15
-2	12
-1	9
0	6
1	3
2	0
3	-3

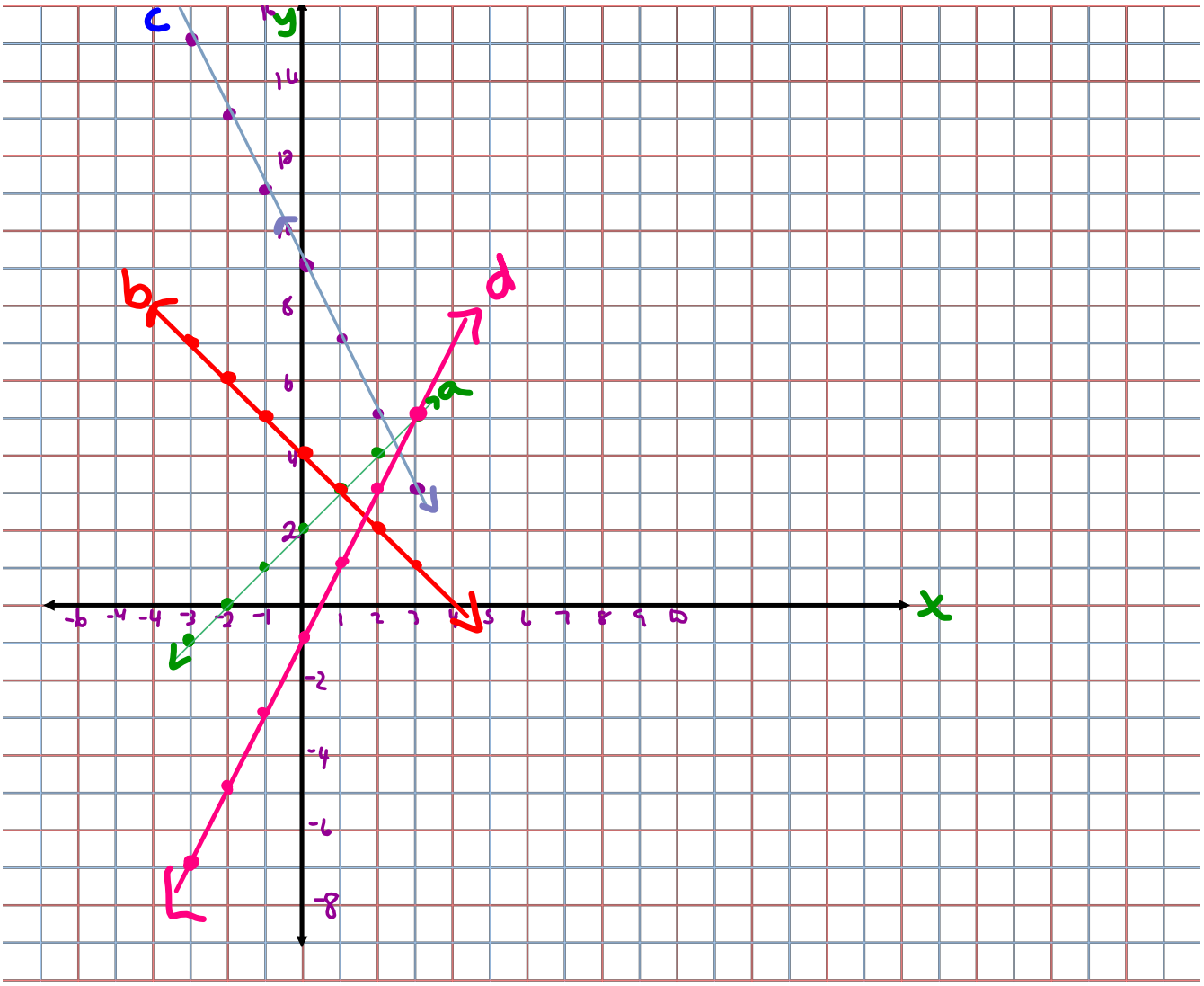
d) $y = 2x - 1$

$x = -3$: $y = 2x - 1 = 2(-3) - 1 = -6 - 1 = -7$, $(-3, -7)$

$x = -2$: $y = 2x - 1 = 2(-2) - 1 = -4 - 1 = -5$, $(-2, -5)$

$x = -1$: $y = 2x - 1 = 2(-1) - 1 = -2 - 1 = -3$, $(-1, -3)$

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


c
y
14
12
10
6
4
2
-2
-4
-6
-8
b
d
a
x
-6 -5 -4 -3 -2 -1 1 2 3 4 5 6 7 8 9 10