
Warm Up Grade 8
Date: Jan 13

1) Find the ordered pairs of $y = 2x - 7$ for $x = 1, 2, 3, 4, 5$
( show work and put data in a chart)

| x | y = 2x - 7 y |
|---|---|
| 1 | -5 |
| 2 | -3 |
| 3 | -1 |
| 4 | 1 |
| 5 | 3 |

$x = 1$

$y = 2x - 7$

$y = 2(1) - 7$

$y = 2 - 7$

$y = -5$

$(x, y)$

$(1, -5)$

$x = 2$

$y = 2x - 7$

$y = 2(2) - 7$

$y = 4 - 7$

$y = -3$

$(2, -3)$

$x = 3$

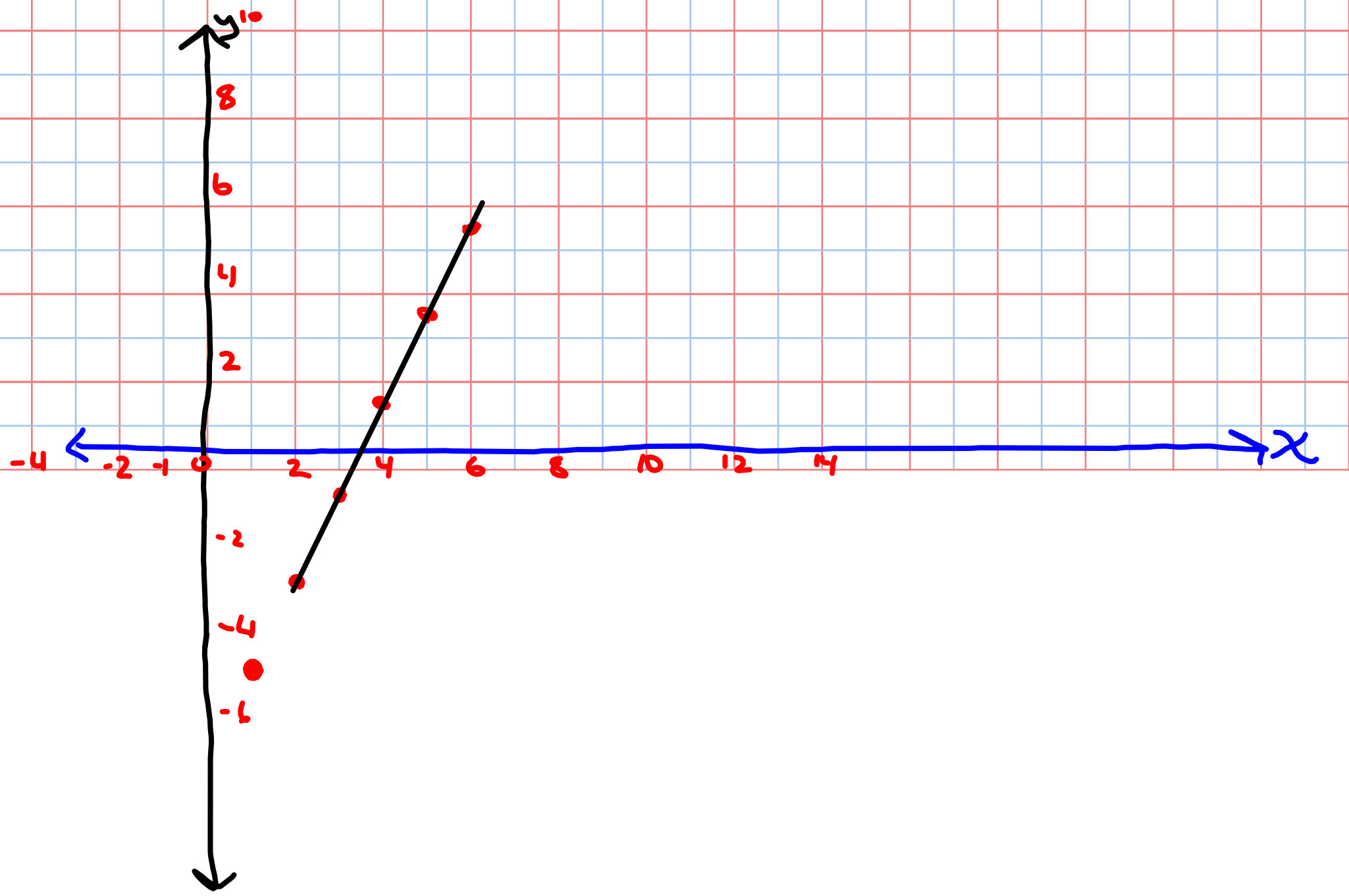
$y = 2x - 7$

$y = 2(3) - 7$

$y = 6 - 7$

$y = -1$

$(3, -1)$


y
x
10
8
6
4
2
-2
-4
-6
-4
-2
-1
0
2
4
6
8
10
12
14

## Discrete vs. Continuous

For word problems

**Discrete** means you do not connect the dots (since you can not have part of your x variable)

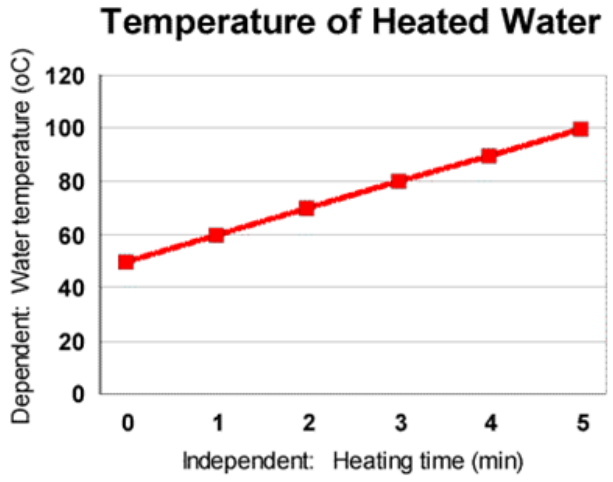
ex) Graphing how many people attended a dance. (Can't have half a person)

**Continuous** means you connect the dots (since you can have part of your x variable)

-If just given an equation then you will connect the dots.

ex 1) Graphing how many hours. (Can have half a hour)

ex 2)




[Continuous vs Discrete Data]

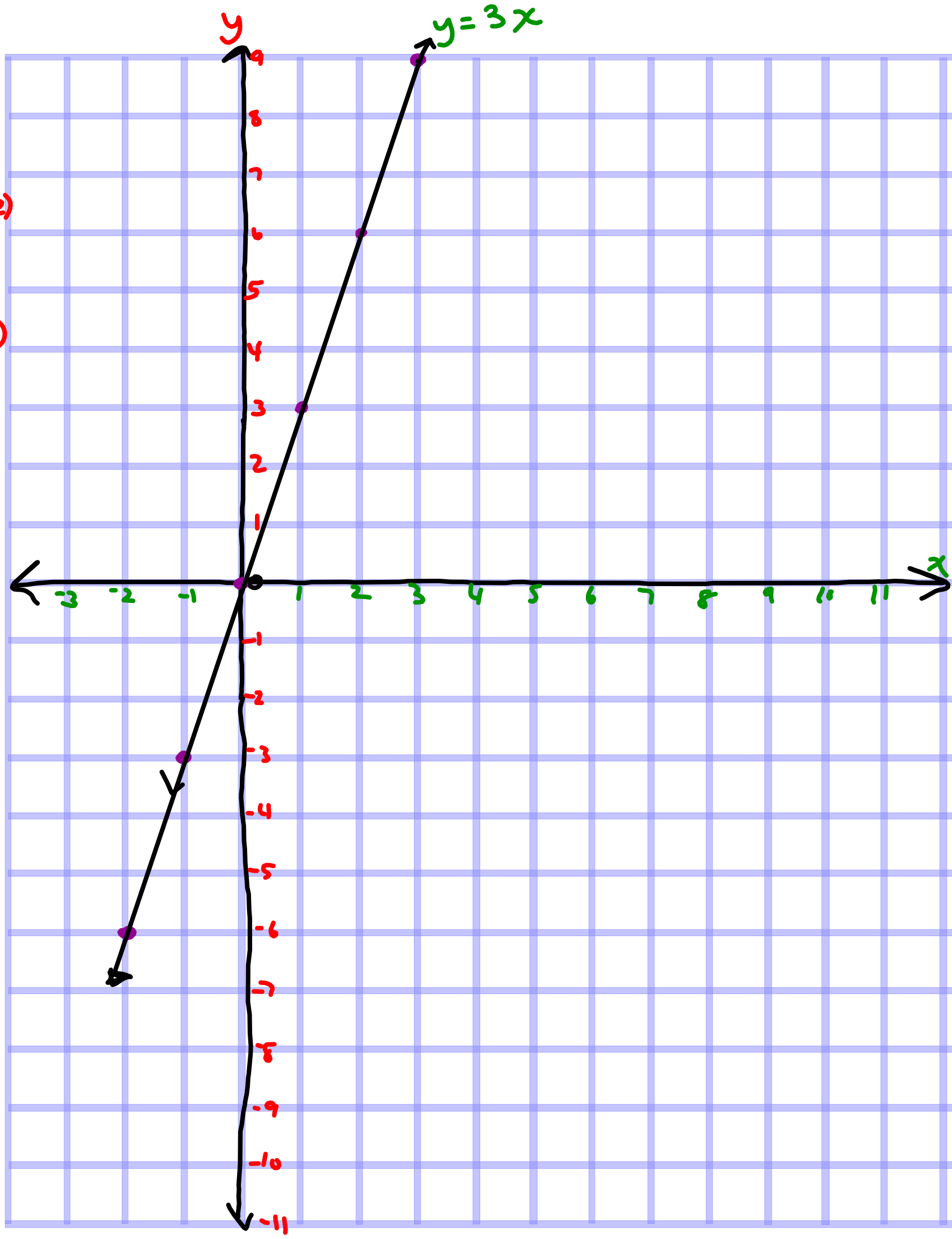
9 min

Ex 1)

Graph $y = 3x$

a) Create a table of values
b) Graph the relation
c) Describe the relations

| x | y | |
|---|---|---|
| -2 | -6 | 3(-2) |
| -1 | -3 | 3(-1) |
| 0 | 0 | 3(0) |
| 1 | 3 | |
| 2 | 6 | |
| 3 | 9 | |



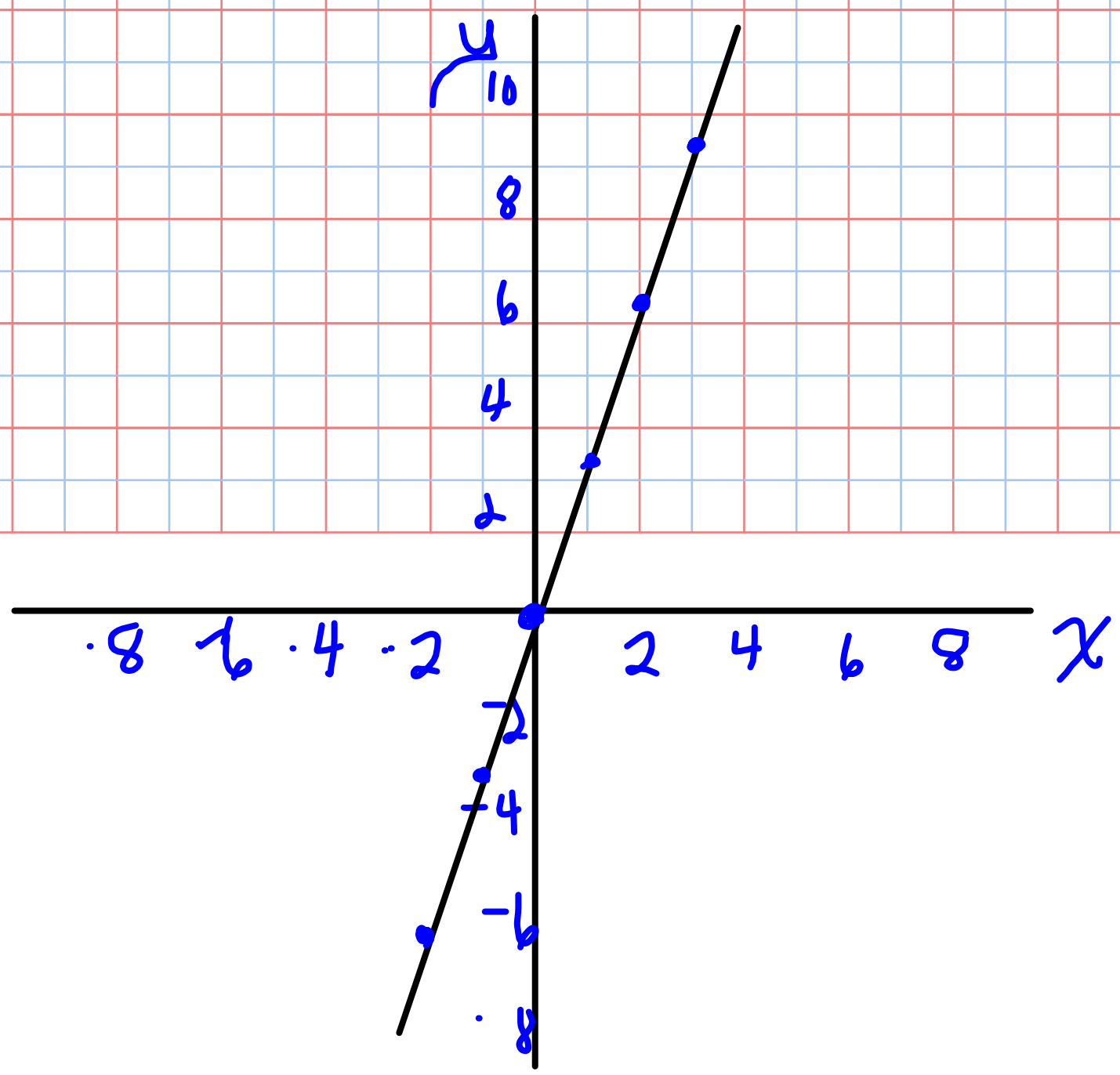

c) Describe Graph

As x increases by 1, y increases by 3.

$y =$

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

$y = 3x$




Graph the following equation:

$y = -2x + 4$

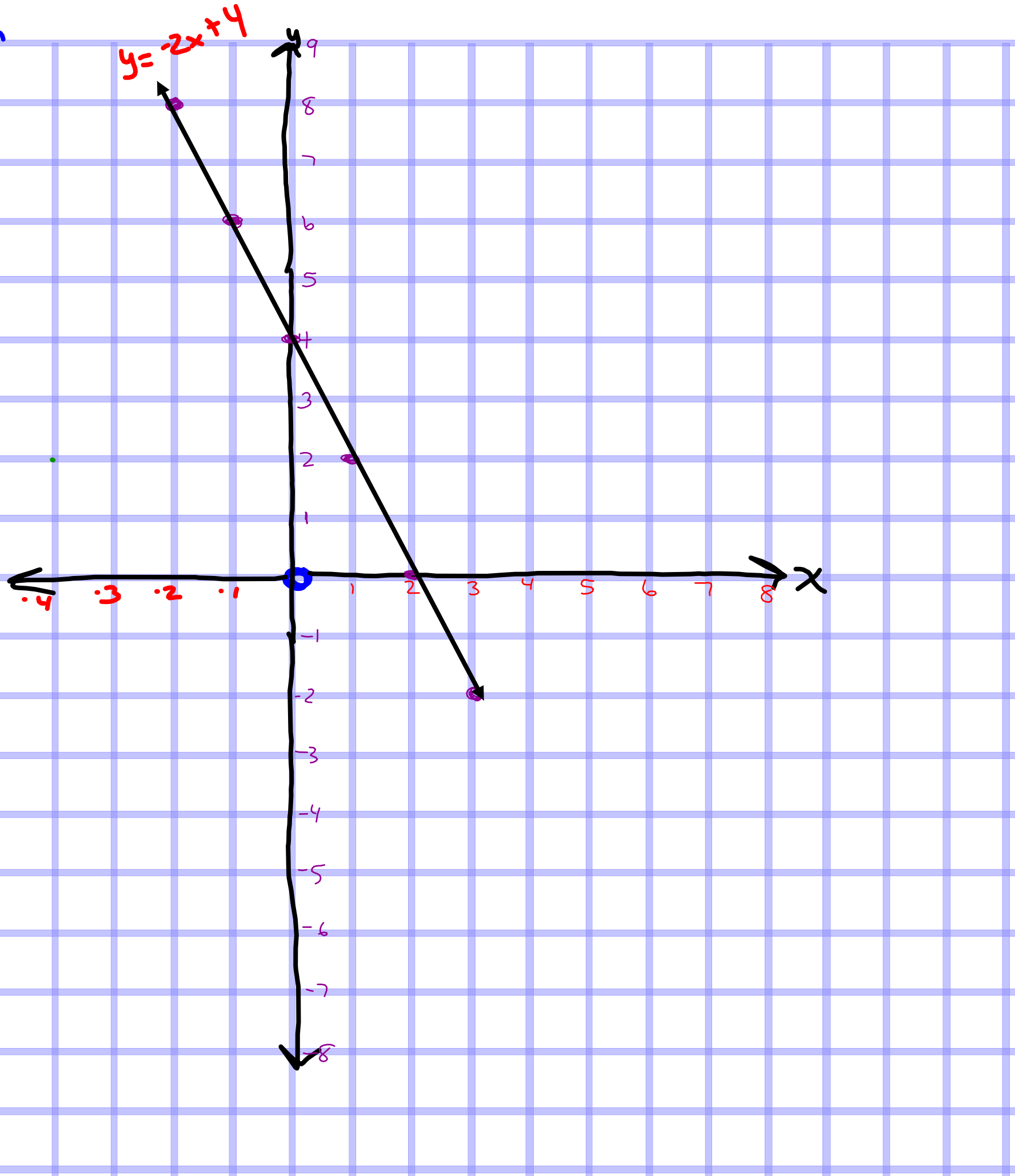
Ex) 2

Graph $y = -2x+4$

a) Create a table of values
b) Graph the relation
c) Describe the relations

| x | y |
|---|---|
| -2 | 8 |
| -1 | 6 |
| 0 | 4 |
| 1 | 2 |
| 2 | 0 |
| 3 | -2 |

down 2




$x = -2$
$y = -2x+4$
$y = -2(-2)+4$
$y = 4+4$
$y = 8$
$(-2, 8)$

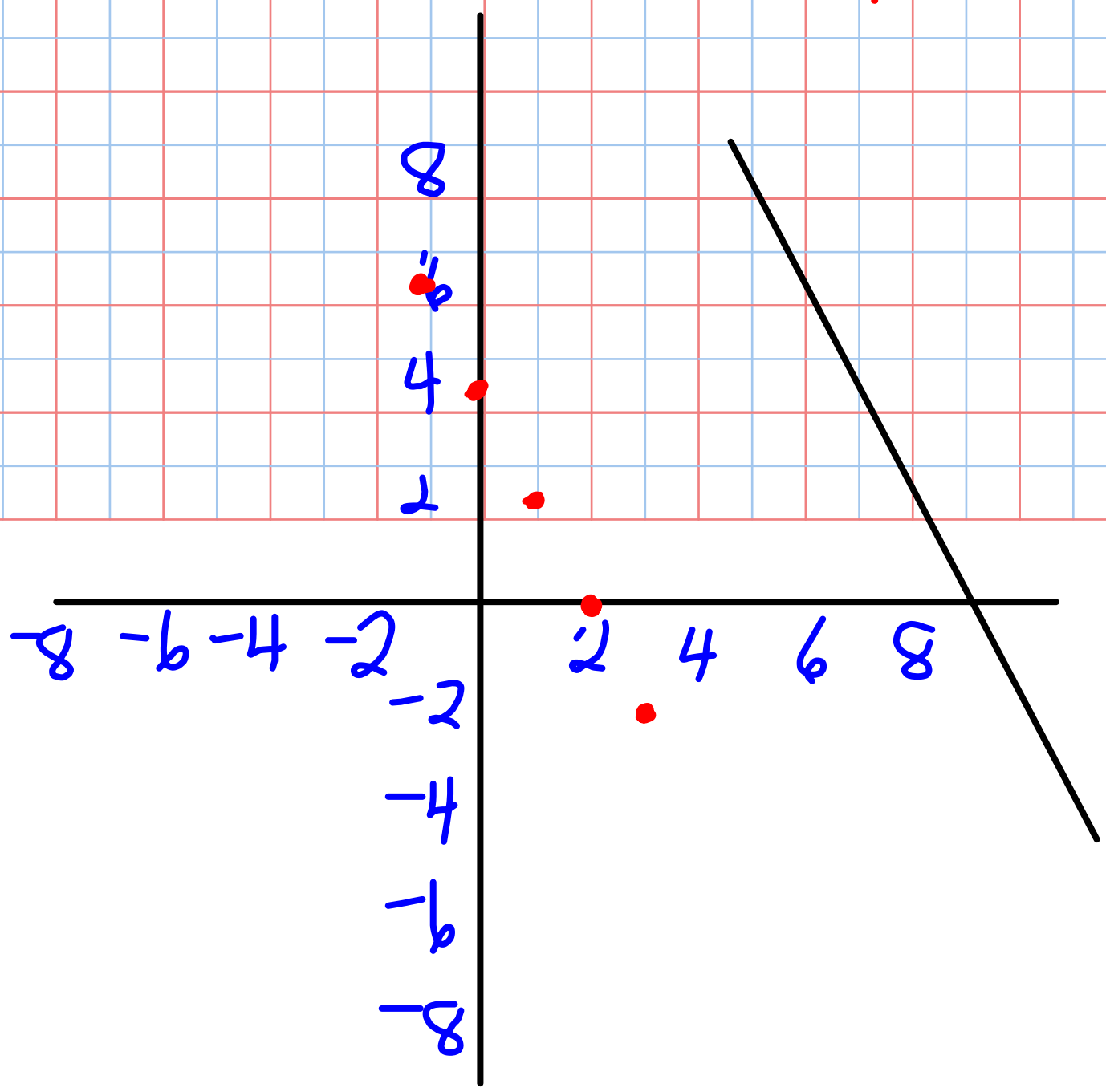
$x = -1$
$y = -2x+4$
$y = -2(-1)+4$
$y = 2+4$
$y = 6$
$(-1, 6)$

$x = 0$
$y = -2x+4$
$y = -2(0)+4$
$y = 0+4$
$y = 4$
$(0, 4)$

c) As x increases by 1, y decreases by 2.

$y = -2x + 4$

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



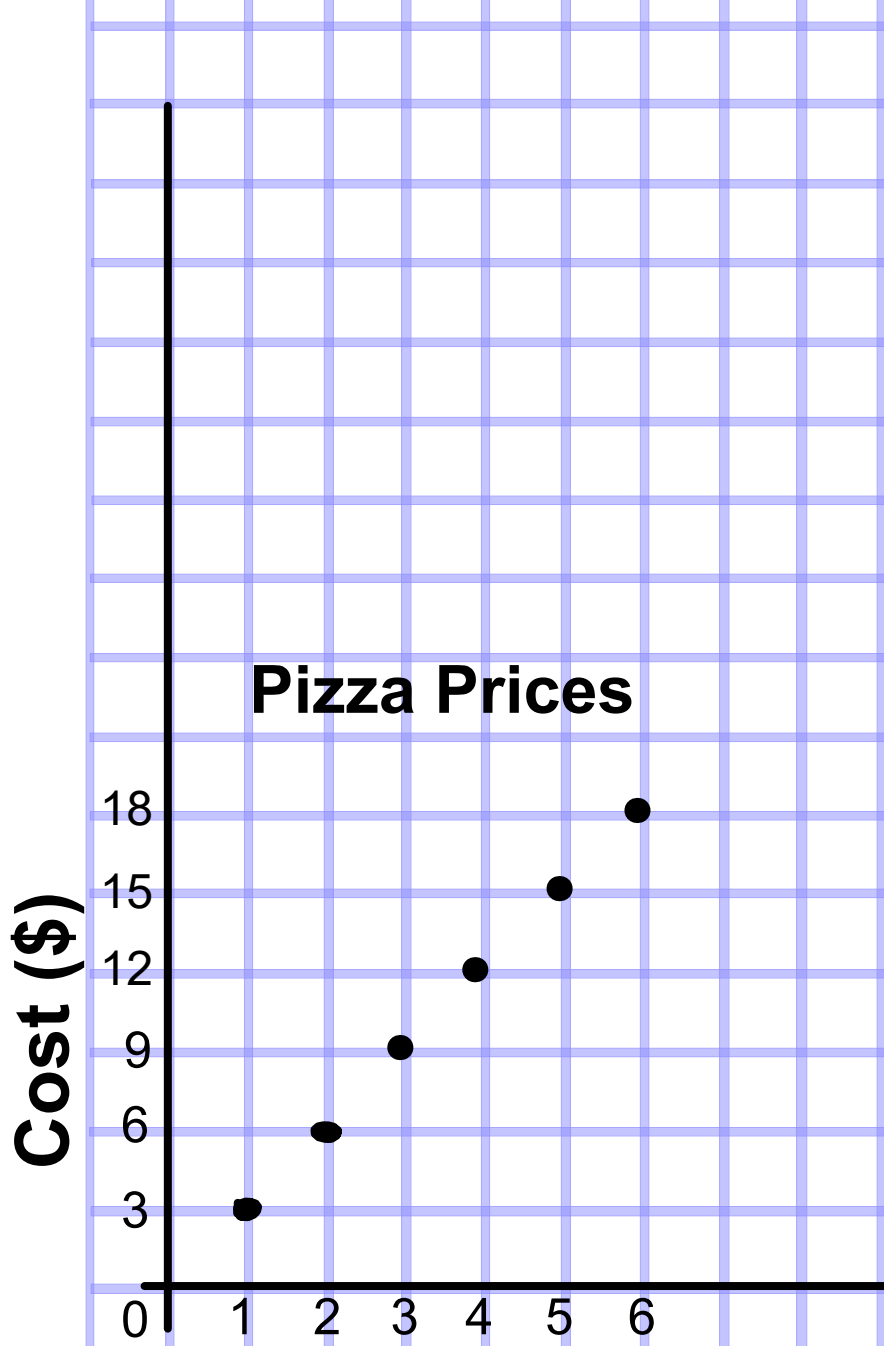
1. Describe the patterns on the graph.

2. What is the cost of one slice of pizza?

3. What is the relationship between the number of slices and the cost?

4. Make a table of values from the graph.

5. If 7 slices of pizza are purchased, what is the cost?




1)

| # slices n | Cost $ |
|---|---|
| x | y |
| 0 | None |
| 1 | 3 |
| 2 | 6 |
| 3 | 9 |
| 4 | 12 |
| 5 | 15 |
| 6 | 18 |
| 7 | 21 ← OR |

up 1, up 3

As # of slices increases by 1, the cost increases by $3.

2) 1 slice cost $3

3) $y = 3x$
$C = 3x$

5) $C = 3x$
$= 3(7)$
$= 21$

# Class/Homework

Page 363

# 4, #5(a,c,e,g), #6(a,b,c,d), #7, #8, #9, #10

Ready

So you know

5a) $y = 2x$

| x | y | Show work |
|---|---|---|
| 0 | 0 | 2(0) |
| 1 | 2 | 2(1) |
| 2 | 4 | 2(2) |
| 3 | | |
| 4 | | |
| 5 | | |

Part 2 Test in 3 days

4a)

| x | y |
|---|---|
| 0 | -1 |
| 1 | 3 |
| 2 | 7 |
| 3 | 11 |
| 4 | 15 |
| 5 | 17 |

+4 +4 +4

As x increases by 1, y increases by 4.

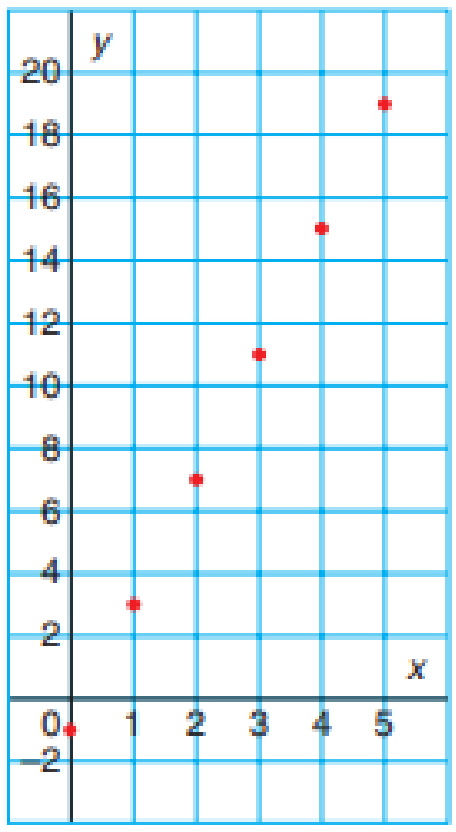
b)

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

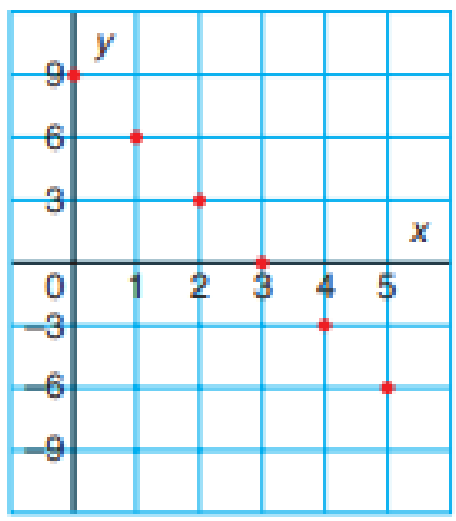
**4.** Each graph below is a graph of a linear relation. Describe the relationship between the variables in each graph.

**a)** $y = 4x - 1$ **b)** $y = -3x + 9$

Graph of $y = 4x - 1$




Graph of $y = -3x + 9$




**5.** Graph each relation for integer values of $x$ from 0 to 5.

**a)** $y = 2x$ **b)** $y = 3x$

**c)** $y = 4x$ **d)** $y = 5x$

**e)** $y = -2x$ **f)** $y = -3x$

**g)** $y = -4x$ **h)** $y = -5x$

**6.** Graph each relation for integer values of $x$ from 0 to 5.

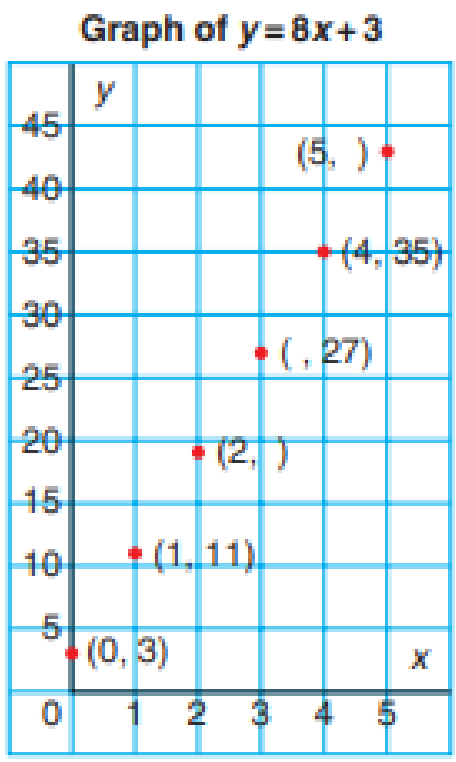
**a)** $y = 2x + 1$ **b)** $y = 2x - 1$

**c)** $y = -2x + 1$ **d)** $y = -2x - 1$

**e)** $y = 3x + 1$ **f)** $y = 3x - 1$

**g)** $y = -3x + 1$ **h)** $y = -3x - 1$

**7.** Here is a graph of the linear relation $y = 8x + 3$.




Each point on the graph is labelled with an ordered pair.

Some numbers in the ordered pairs are missing. Find the missing numbers.

Explain how you did this.

**9.** Use the data from *Example 1*, page 361.

An equation for the linear relation is:

$c = 11 + 2n$,

where $n$ is the number of toppings on the pizza, and $c$ is the total cost of the pizza in dollars. Here is a table of values.

| $n$ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| $c$ | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 |

**a)** Construct a graph for the data.

**b)** Describe the relationship between the variables in the graph.

**c)** Find the ordered pair on the graph that shows the cost of a pizza with 6 toppings.