HW page 43 <-- warmup: check your answers!

Write a function rule for each table.

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

$y = 2x$

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

$y = -2x$

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

$y = x - 1$

x	f(x)
-3	4
-2	5
-1	6
0	7
1	8
2	9
3	10

$y = x + 7$

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

$y = x - 2$

x	f(x)
-3	-5
-2	-3
-1	-1
0	1
1	3
2	5
3	7

$y = 2x + 1$

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

$y = 2x - 2$

x	y
-3	-14
-2	-9
-1	-4
0	1
1	6
2	11
3	16

$y = 5x + 1$

Write a function rule for each situation.

9. The cost (c) of buying bananas at $.40 a pound (p). $c = .40p$

10. The total (t) to rent a cabin, where a resort charges $50 plus $10 per person (p). $t = 10p + 50$

11. The cost (c) of renting a truck for $30 and then paying $2 per mile (m). $c = 2m + 30$

12. The weight (w) of a football player who starts at 160 pounds and then gains 4 pounds a month (m). $w = 4m + 160$

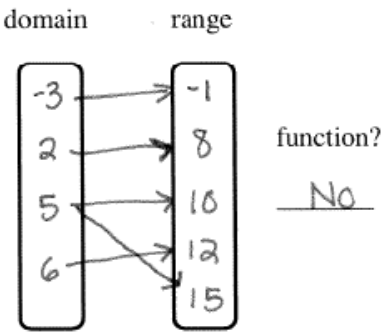
* 13. The weight (w) of a lady who starts at 160 pounds and then diets and loses 10 pounds a month (m). $w = -10m + 160$

* 14. The profit (p) you would keep from selling shirts (s) for $10 each when you paid $200 for all of them. $P = 10s - 200$

Review: HW page 44

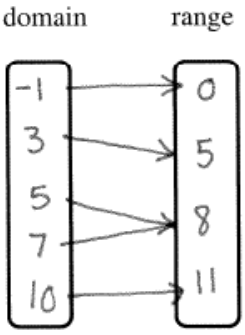
Map the domain and range for each list of points. **Don't forget to draw arrows.** Then say if the relation is also a function.

1. {(2, 8), (5, 10), (-3, -1), (6, 12), (5, 15)}



function? No

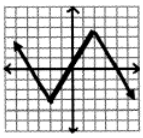
2. {(-1, 0), (3, 5), (5, 8), (7, 8), (10, 11)}



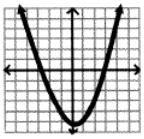
function? Yes

Tell if each graph is a function or not.

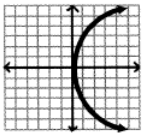
a.



yes

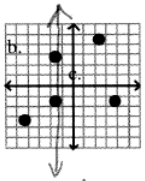


yes



No

b.



No

Circle each of the points below that would be on the line given by the function rule:

$$3x + y = 14$$

a. (2, 8)

$3(2)+8=14$
$6+8=14$
$14=14$
Yes

b. (-5, 1)

$3(-5)+1=14$
$-15+1=14$
$-14=14$
No

c. (6, -4)

$3(6)+(-4)=14$
$18-4=14$
$14=14$
yes

d. (-2, 20)

$3(-2)+20=14$
$-6+20=14$
$14=14$
yes

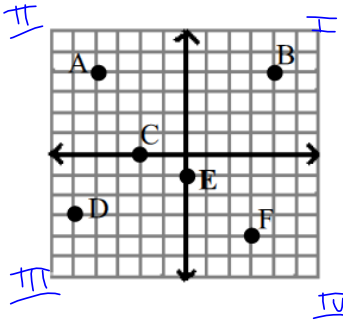
e. (5, -1)

$3(5)+(-1)=14$
$15-1=14$
$14=14$
yes

Unit 4 Practice Test

Name _____
Date _____ Per. _____

Name the points from the graph and say what quadrant the point is in or which axis it is on:



1. A (-4 , 4), Quadrant or axis II
2. B (,), Quadrant or axis _____
3. C (-2 , 0), Quadrant or axis x-axis
4. D (,), Quadrant or axis _____
5. E (0 , -1), Quadrant or axis y-axis
6. F (,), Quadrant or axis _____

7. Give the domain and range of the points.

Domain: _____

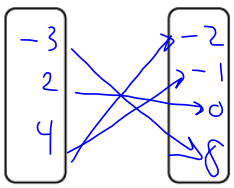
Range: _____

Function? _____

Map the domain and range for the following set of points and tell if it is a function. (Don't forget the arrows on your map.).

8. {(4, -2), (2, 0), (-3, 8), (4, -1)}

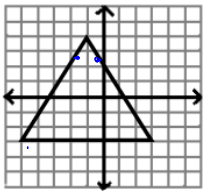
domain range



Function? no

Give the domain and range of each graph and . tell if the graph is a function or not.

9.



Function? no

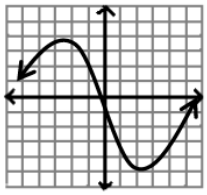
Challenge!
Give the domain: $[-5, 3]$

Give the range: $[-3, 4]$

$-5 \leq x \leq 3$

$-3 \leq y \leq 4$

10



Function? _____

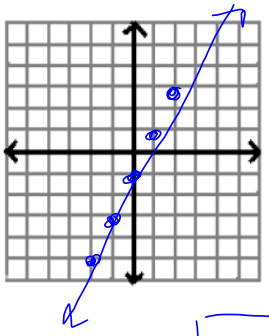
Challenge!
Give the domain:

Give the range:

Make a table and graph for the given function rule and the domain $\{-2 \le x \le 2\}$:

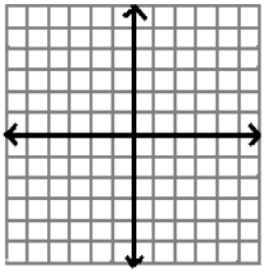
11. $y = 2x - 1$

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



12. $f(x) = -2x + 1$

x	f(x)



13. **Which points are on the following line?** $4y = 2x + 6$

a. (3, 3) — $4(3) = 2(3) + 6$, $12 = 6 + 6$, yes

b. (-2, 2) — $4(2) = 2(-2) + 6$, $8 = -4 + 6$, no

c. (-5, -1) — $4(-1) = 2(-5) + 6$, $-4 = -10 + 6$, yes

d. (-3, 0) — $4(0) = 2(-3) + 6$, $0 = 0$, yes

Write a function rule for each table or situation: (* Don't forget to write **y** = in front!)

14.

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

Rule: _____

15.

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

Rule: $y = -4x$

16.

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

Rule: _____

$y = 4x \cdot -1$

First, write a function rule for the following situation, then answer the question using your function rule.

17. a. The total cost (c) from a produce bar, when the sign says $2.25 per pound (p)

Rule: $c = 2.25p$

b. Your mother sends you to buy 3 pounds of produce for a party.

How much will it be? $c(3) = 2.25(3)$ $= \$6.75$

18. In the above situation, what is the **independent** variable? pounds of produce

What is the **dependent** variable? cost

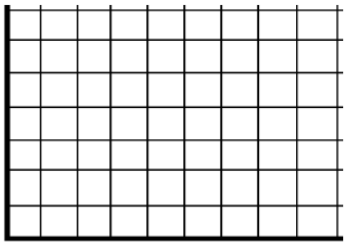
cost depends on pounds of fruit.

19. You and your band decide to have a party to celebrate the success of your new CD. A nearby restaurant tells you it will be $100 to rent their banquet room and $20 a dinner (**d**). Write a **function rule** for the situation. Then **find and graph** the cost **(c)** of dinner for 10, 20, 30, 40, and 50 people. Don't forget to **label** your graph.

Function Rule:

_____

d	c



20. In the above situation: What is the **independent** variable? _____
What is the **dependent** variable? _____

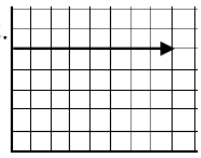
Match each of the word situations with the correct graph.

a. The amount of power in a cell phone battery as it charges from 20% to 100%.

b. The amount of power in a cell phone as a person uses it to watch videos.

c. The amount of power in a cell phone that has been turned completely off.

21. 
b

22. 
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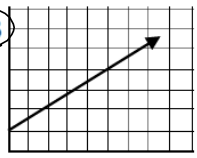
23. 
a