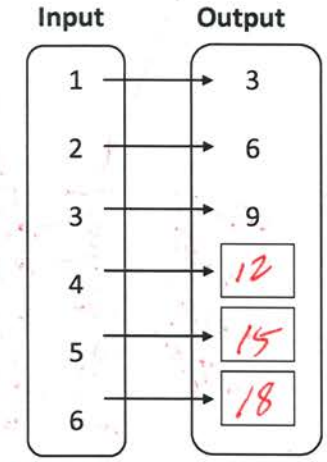
Name: Answers Period: _____

6.1-6.3 – Review

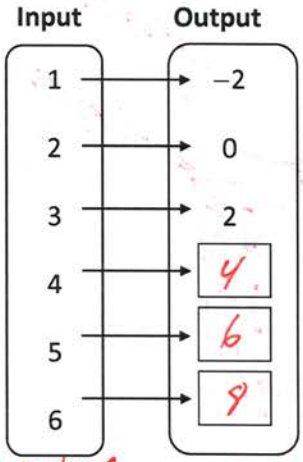
Describe the pattern in the mapping diagram AND complete the diagram.

1)



Going up by 1

2)

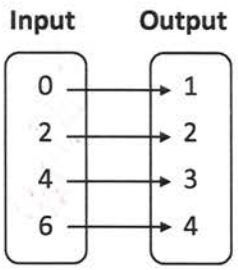


Going up by 2

Going up by 2

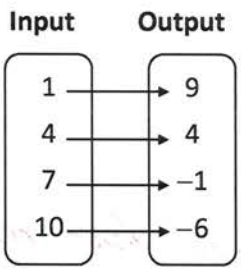
List the ordered pairs shown in the mapping diagram.

3)



(0,1)
(2,2)
(4,3)
(6,4)

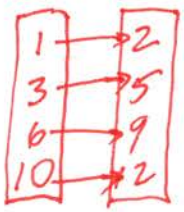
4)



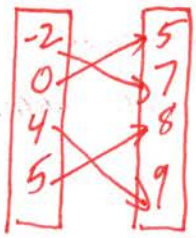
(1,9)
(4,4)
(7,-1)

Draw a mapping diagram of the set of ordered pairs.

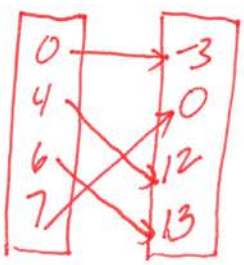
5) (1, 2), (3, 5), (6, 9), (10, 12)



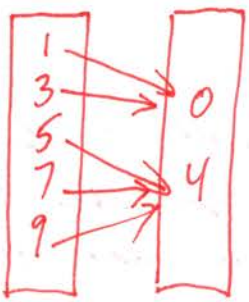
6) (−2, 7), (0, 5), (5, 8), (4, 9)



7) (0, −3), (4, 12), (6, 13), (7, 0)

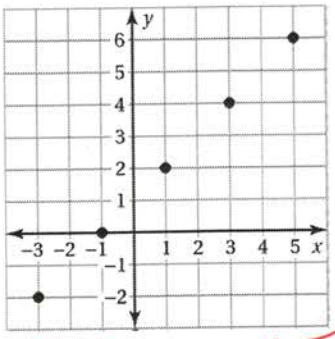


8) (1, 0), (3, 0), (5, 4), (7, 4), (9, 4)



Draw a mapping diagram for the graph. **Then** describe the pattern of inputs and outputs.

9)



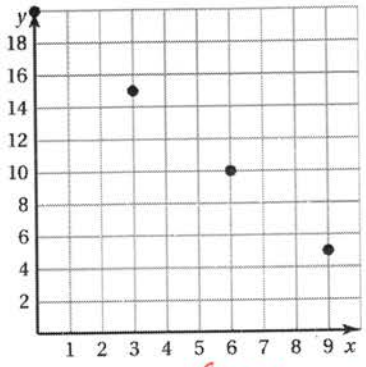
Inputs: Going up by 2

Outputs: Going up by 2

(-3, -2)
(-1, 0)
(1, 2)
(3, 4)
(5, 6)

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

10)



Inputs: Going up by 3

Outputs: Going down by 5

(0, 20)
(3, 15)
(6, 10)
(9, 5)

0	20
3	15
6	10
9	5

11) The table shows the number of tickets purchased and the total cost.

a) Use the table to draw a mapping diagram.

1	14
2	24
3	30
4	32

Tickets	Total Cost
1	$14
2	$24
3	$30
4	$32

14 each
12 each
10 each
8 each
6 each

5 30

b) Is the relation a function? Explain.

Yes. The inputs don't repeat.

c) Describe the pattern. How does the cost per ticket change as you buy more tickets?

The number of tickets go up by 1
The price for each additional ticket goes down by 2

d) Based on this pattern, how much would you expect to pay for 5 tickets?

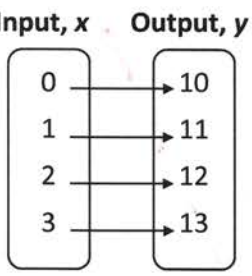
$30

e) Compare the costs for 3 tickets and 5 tickets. What can you suggest?

The cost is the same.
Get two more friends to go. It costs the same as 3 people.

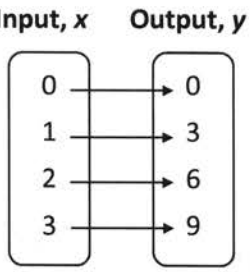
Write an equation that describes the function.

12)



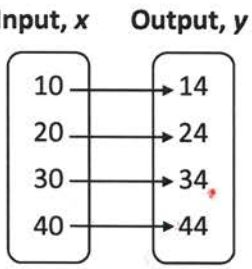
$y = x + 1$

13)



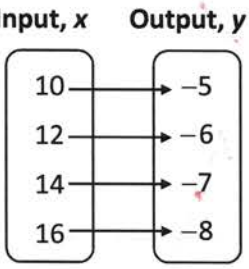
$y = 3x$

14)



$y = x + 4$

15)



$y = \frac{x}{-2}$

Write a function rule (equation) for the statement.

16) The output is eight less than the input. $y = x - 8$

17) The output is double the input. $y = 2x$

18) The output is five times the input. $y = 5x$

19) The output is two less than the input. $y = x - 2$

Find the value of y for the given value of x.

20) $y = 3x - 4; x = 2$

$y = 2$

21) $y = \frac{x}{3} - 1; x = -6$

$y = -3$

Find the value of x for the given value of y.

22) $y = 6x - 4; y = 20$

$x = 4$

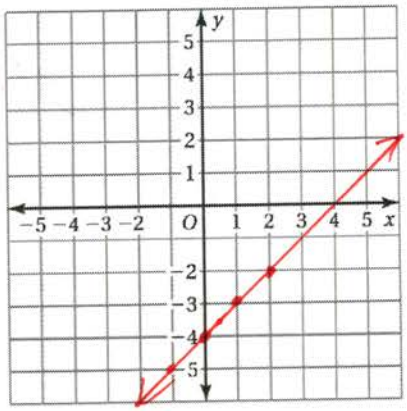
23) $y = \frac{x}{2} + 3; y = 1$

$x = -4$

Graph the function. (Clue: create a input-output table)

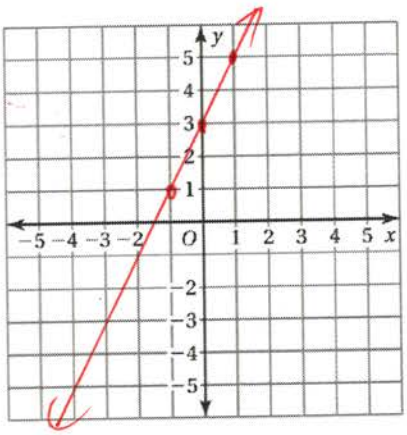
24) $y = x - 4$

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



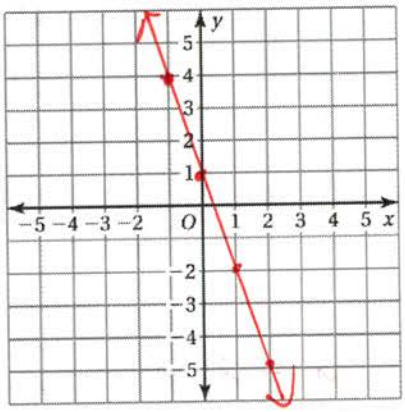
25) $y = 2x + 3$

x	$y = 2x + 3$
-1	1
0	3
1	5
2	7



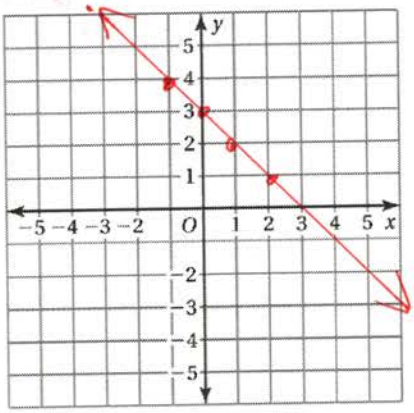
26) $y = -3x + 1$

x	$y = -3x + 1$
-1	4
0	1
1	-2
2	-5



27) $y = -x + 3$

x	$y = -x + 3$
-1	4
0	3
1	2
2	1



In your own words, what is the rise of the slope of a line?

28) In your own words, what is the rise of the slope of a line?

It's how much a line is going up or down

29) In your own words, what is the run of the slope of a line?

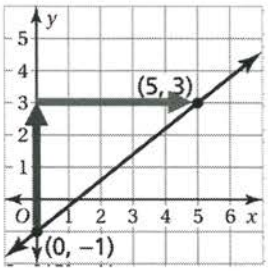
It's how much a line is going left or right

30) What is the ratio that describes what slope is?

$$\text{slope} = \frac{\text{rise}}{\text{run}}$$

For the following, identify the (a) rise, (b) run, (c) slope, and (d) y-intercept of each of the lines

31)



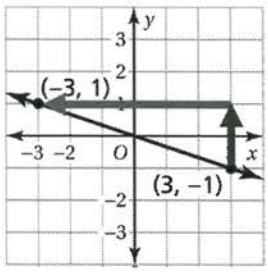
a) 4

b) 5

c) $\frac{4}{5}$

d) (0, −1)

32)

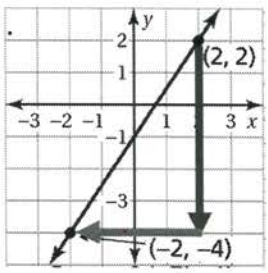


a) 2

b) −6

c) $\frac{2}{-6} = -\frac{1}{3}$

d) (0, 0)



a) −6

b) −4

c) $\frac{-6}{-4} = \frac{3}{2}$

d) (0, −1)