Functions Review

What do we know about domain and range?

1. Give the domain and range of the relation.

x	y
2	5
6	13
0	0
–6	–11

A. D: {0}; R: {2, 6, –6, 5, 13, –11}
B. D: {–11, 5, 13}; R: {–6, 2, 6}
C. D: {–6, 0, 2, 6}; R: {–11, 0, 5, 13}
D. D: {–11, 0, 5, 13}; R: {–6, 0, 2, 6}

2. Give the domain and range of the relation.

x	y
1	3
10	21
0	0
–10	–19

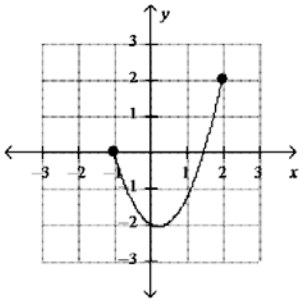
A. D: {–10, 0, 1, 10}; R: {–19, 0, 3, 21}
B. D: {–19, 3, 21}; R: {–10, 1, 10}
C. D: {0}; R: {1, 10, –10, 3, 21, –19}
D. D: {–19, 0, 3, 21}; R: {–10, 0, 1, 10}

3. Give the domain and range of the relation.

x	y
2	5
6	13
0	0
–7	–13

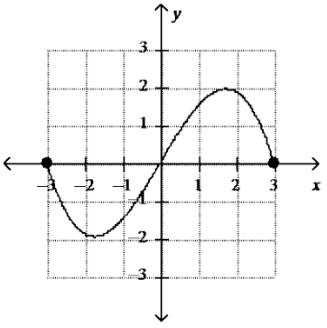
A. D: {–7, 0, 2, 6}; R: {–13, 0, 5, 13}
B. D: {–13, 0, 5, 13}; R: {–7, 0, 2, 6}
C. D: {–13, 5, 13}; R: {–7, 2, 6}
D. D: {0}; R: {2, 6, –7, 5, 13, –13}

4. Give the domain and range of the relation.



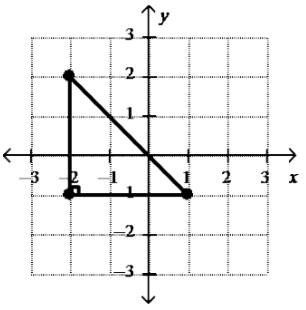
A. D: $-2 \le x \le 2$; R: $-1 \le y \le 2$
B. D: {-1, 0, 1, 2}; R: {-2, -1, 0, 1, 2}
C. D: $-1 \le x \le 2$; R: $-2 \le y \le 2$
D. D: $-1 \le x \le 2$; R: $0 \le y \le 2$

5. Give the domain and range of the relation.



A. D: $-2 \le x \le 2$; R: $-3 \le y \le 3$
B. D: $-3 \le x \le 3$; R: $0 \le y \le 0$
C. D: $-2 \le x \le 3$; R: $-2 \le y \le 2$
D. D: $-3 \le x \le 3$; R: $-2 \le y \le 2$

6. Give the domain and range of the relation



A. D: $-2 \le x \le 3$; R: $-3 \le y \le 3$
B. D: $-3 \le x \le 2$; R: $-2 \le y \le 3$
C. D: $-2 \le x \le 3$; R: $-2 \le y \le 3$
D. D: $-3 \le x \le 3$; R: $-2 \le y \le 2$

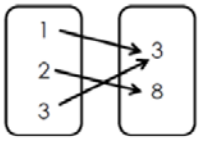
What do we know about functions?

7. Which set of ordered pairs represents a function?
- **A.** {(1, 4), (4, 1), (1, -5), (4, -2)}
- **B.** {(-1, 6), (0, 6), (1, 6), (2, 6)}
- **C.** {(-5, 5), (0, 0), (-5, -5)}
- **D.** {(2, -3), (-2, 1), (2, -6), (-2, 4)}

8. Which set of ordered pairs represents a function?
- **A.** {(1, 2), (3, 5), (5, 7), (3, 2)}
- **B.** {(4, 0), (2, 1), (4, 6), (2, 5)}
- **C.** {(-1, 3), (0, 4), (1, 5), (2, 5)}
- **D.** {(2, 5), (3, 4), (5, 2), (3, 0)}

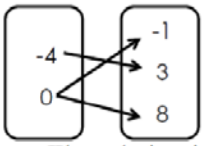
9. Which set of ordered pairs *do not* represent a function?
- **A.** {(1, 2), (3, 4), (5, 6), (7, 8)}
- **B.** {(0, 5), (3, 4), (2, 5), (1, 4)}
- **C.** {(5, 8), (7, 8), (9, 8), (11, 8)}
- **D.** {(-2, 1), (-1, 8), (0, 4), (-1, 5)}

10. Tell whether the relation is a function.



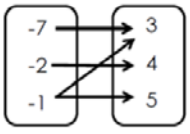
- **A.** The relation is not a function.
- **B.** The mapping diagram is not a relation..
- **C.** The information cannot be determined given the following mapping diagram.
- **D.** The relation is function.

11. Tell whether the relation is a function.



- **A.** The relation is function.
- **B.** The information cannot be determined given the following mapping diagram.
- **C.** The mapping diagram is not a relation..
- **D.** The relation is not a function.

12. Tell whether the relation is a function.



- **A.** The information cannot be determined given the following mapping diagram.
- **B.** The relation is function.
- **C.** The mapping diagram is not a relation..
- **D.** The relation is not a function.

How do we write equations from tables?

13. Determine a relationship between the *x*- and *y*-values. Write an equation.

X	Y
1	2
2	5
3	8
4	11

- **A.** y = -x + 3
- **B.** y = 3x -1
- **C.** y = 1/3x
- **D.** y = 3x + 2

14. Determine a relationship between the *x*- and *y*-values. Write an equation.

X	Y
1	-4
2	-5
3	-6
4	-7

- **A.** y = -x -3
- **B.** y = -3x
- **C.** y = -x + 3
- **D.** y = x + 3

15. Determine a relationship between the *x*- and *y*-values. Write an equation.

X	Y
1	-2
2	0
3	2
4	4

- **A.** y = 2x +2
- **B.** y = 2x + 0
- **C.** y = -2x + 4
- **D.** y = 2x - 4

16. Determine a relationship between the *x*- and *y*-values. Write an equation.

x	1	2	3	4
y	–4	–8	–12	–16

- **A.** $y = x$
- **B.** $y = 4x$
- **C.** $y = -3x - 2$
- **D.** $y = -4x$

17. Determine a relationship between the *x*- and *y*-values. Write an equation.

x	1	2	3	4
y	6	12	18	24

- **A.** $y = -6x$
- **B.** $y = x$
- **C.** $y = 7x + 3$
- **D.** $y = 6x$

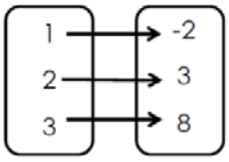
18. Determine a relationship between the x- and y-values. Write an equation.

x	1	2	3	4
y	4	8	12	16

A. $y = -4x$
B. $y = 4x$
C. $y = 3x - 1$
D. $y = x$

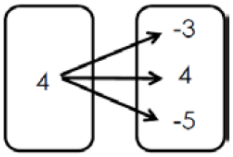
What is domain and range again? A function?

19. Give the domain and range of the relation.



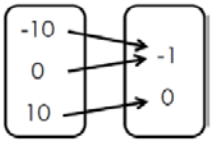
A. D: {1, 2, 3}; R: {-2, 3, 8}
B. D: {-2, 3, 8 }; R: {1, 2, 3}
C. D: $1 \le x \le 3$; R: $-2 \le y \le 8$
D. D: {1, 2, 3, 4}; R: {3, 8}

20. Give the domain and range of the relation.



A. D: {4}; R: {4}
B. D: {-3, 4, -5}; R: {4}
C. D: $4 \le x \le 4$; R: $-5 \le y \le 4$
D. D: {4 }; R: {-3, 4, -5}

21. Give the domain and range of the relation. Tell whether the relation is a function.

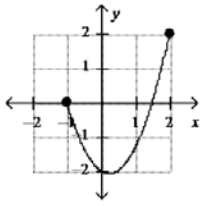


A. D: {-10, 0, 10 }; R: {-1. 0}
The relation is not a function.
B. D: {-10, 0, 10 }; R: {-1. 0}
The relation is a function.
C. D: {-1, 0 }; R: {-10, 0, 10}
The relation is not a function.
D. D: {-1,0}; R: {-10, 0, 10}
The relation is a function.

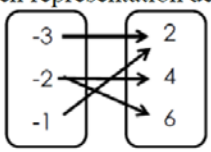
22. Which representation does not describe a function?
A. $y = -5x^2 + 2$
B.

x	y
-1	-2
0	-7
1	-12
2	-17

C. {(0, 4), (-2, 1), (0, -2), (-3, -5)}
D.



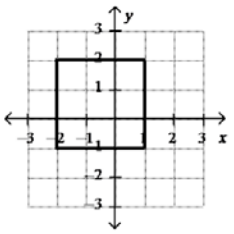
23. Which representation describes a function
A.



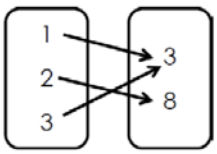
B.

x	y
-1	-2
0	-7
1	-12
2	-17

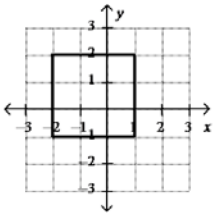
C. {(-3, 4), (-2, 1), (-1, -2), (-3, -5)}
D.



24. Which representation does not describe a function?
A. $y = -x + 2$
B.



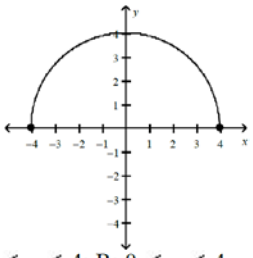
C. {(-0, 4), (-2, 1), (-1, -2), (-3, -5)}
D.



25. Which of the following is TRUE of relations?

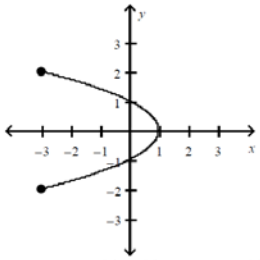
A. All relations are functions.
B. All relations are sets of inputs with corresponding outputs.
C. All relations can be graphed on a number line.
D. All relations can be graphed as a straight line.

26. Give the domain and range of the relation. Tell whether the relation is a function.



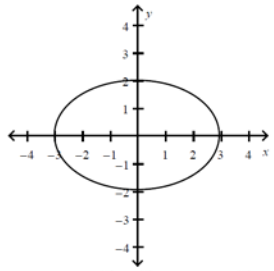
A. D: $-4 \le x \le 4$; R: $0 \le y \le 4$
The relation is a function.
B. D: $0 \le x \le 4$; R: $-4 \le y \le 4$
The relation is a function.
C. D: $0 \le x \le 4$; R: $-4 \le y \le 4$
The relation is not a function.
D. D: $-4 \le x \le 4$; R: $0 \le y \le 4$
The relation is not a function.

27. Give the domain and range of the relation. Te whether the relation is a function.



A. D: $-3 \le x \le 1$; R: $-2 \le y \le 2$
The relation is not a function.
B. D: $-2 \le x \le 2$; R: $-3 \le y \le 1$
The relation is a function.
C. D: $-3 \le x \le 1$; R: $-2 \le y \le 2$
The relation is a function.
D. D: $-2 \le x \le 2$; R: $-3 \le y \le 1$
The relation is not a function.

28. Give the domain and range of the relation. Te whether the relation is a function.



A. D: $-2 \le x \le 2$; R: $-3 \le y \le 3$
The relation is a function.
B. D: $-3 \le x \le 3$; R: $-2 \le y \le 2$
The relation is not a function.
C. D: $-2 \le x \le 2$; R: $-3 \le y \le 3$
The relation is not a function.
D. D: $-3 \le x \le 3$; R: $-2 \le y \le 2$
The relation is a function.

29. Determine a relationship between the x- and y-values. Write an equation.

x	2	4	6	8
y	5	9	13	17

A. $y = 2x + 1$
B. $y = -2x - 2$
C. $y = 2x + 5$
D. $y = 3x + 1$

30. Determine a relationship between the x- and y-values. Write an equation.

x	2	4	6	8
y	8	6	4	2

A. $y = -x + 10$
B. $y = 10x$
C. $y = -x + 8$
D. $y = 6x + 1$

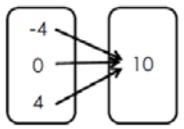
31. Determine a relationship between the x- and y-values. Write an equation.

x	2	4	6	8
y	0	4	8	12

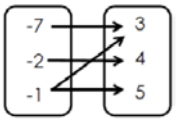
A. $y = 2x + 2$
B. $y = 2x - 4$
C. $y = -2x + 4$
D. $y = -2x - 4$

32. Which mapping diagram represents a function?

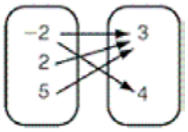
A.



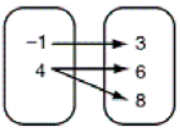
C.



B.

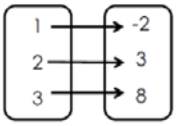


D.

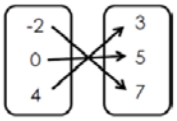


33. Which mapping diagram *does not* represent a function?

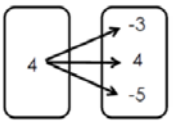
A.



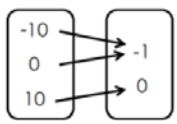
C.



B.



D.



34. Which table describes the equation y = 3x + 10?

A.

X	Y
2	10
3	8
4	6
5	4

C.

X	Y
1	-2
2	0
3	2
4	4

B.

X	Y
-2	4
-1	7
0	10
1	13

D.

X	Y
1	6
2	3
3	0
4	-3

35. Which table describes the equation y = -3x + 9?

A.

X	Y
1	-4
2	-5
3	-6
4	-7

C.

X	Y
-2	4
-1	7
0	10
1	13

B.

X	Y
1	6
2	3
3	0
4	-3

D.

X	Y
2	10
3	8
4	6
5	4

36. Which table describes the equation y = -2x + 14?

A.

X	Y
2	10
3	8
4	6
5	4

C.

X	Y
1	-2
2	0
3	2
4	4

B.

X	Y
2	10
3	8
4	6
5	4

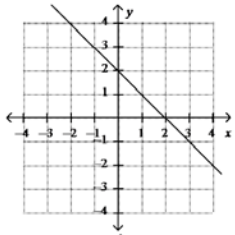
D.

X	Y
1	2
2	5
3	8
4	11

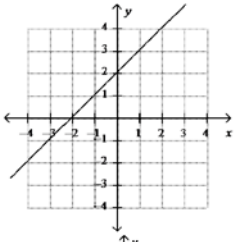
How do we graph an equation?

37. Graph the function $y = x - 2$.

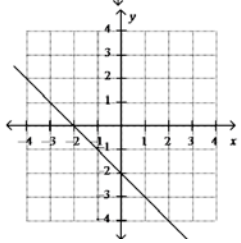
A.



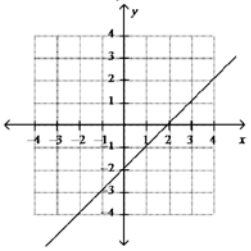
C.



B.

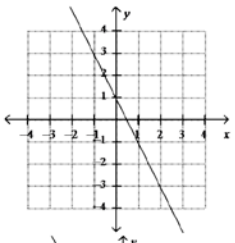


D.

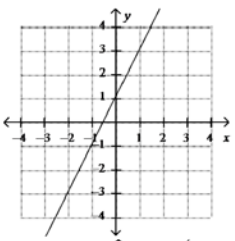


38. Graph the function $y = -2x - 1$.

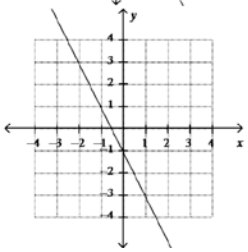
A.



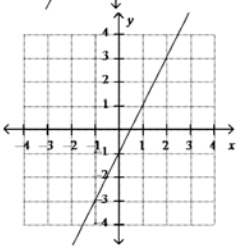
C.



B.

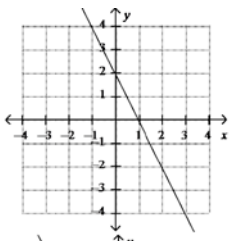


D.

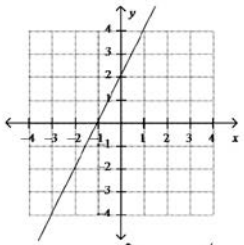


39. Graph the function $y = 2x - 2$.

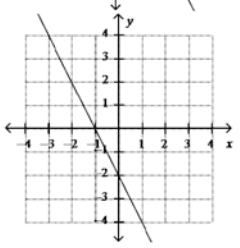
A.



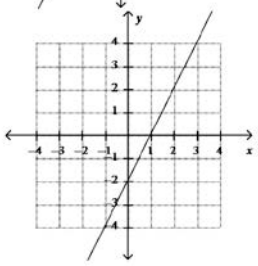
C.



B.

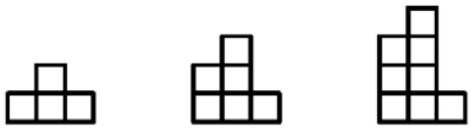


D.



40. Represent the following pattern task with a picture, table, words, equation, and as a graph.

Picture:



Stage 1 Stage 2 Stage 3

Table:

Stage #	Number of Tiles
0	
1	
2	
3	
4	
5	

Words:

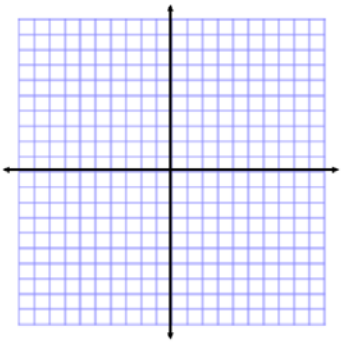
How many did you start with?

How many did you add EACH time?

Equation:

y = ___ x + ___

Graph:



41. Represent the following pattern task with a picture, table, words, equation, and as a graph.

Picture:

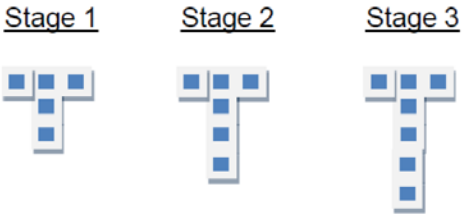


Table:

Stage #	Number of Tiles
0	
1	
2	
3	
4	
5	

Words:

How many did you start with?

How many did you add EACH time?

Equation:

y = ___ x + ___

Graph: