Pre-Algebra, Unit 4 Practice Test: Introduction to Functions

Name:

Date:

1. Define the following:
   a. *input*

   b. *output*

2. Define the following:
   a. *domain*

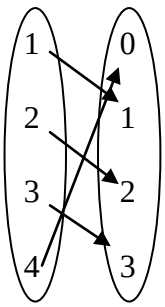
   b. *range*

3. Define the following:
   a. *relation*

   b. *function*

4. Which relation is NOT a function?

A.

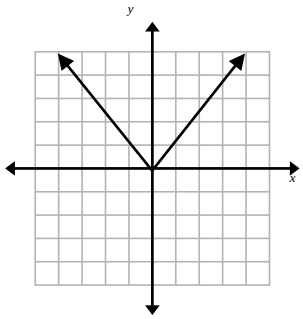


B.

x	1	2	3
y	6	6	6

C. $\{(1,\ 2),\ (1,\ 3),\ (1,\ 4)\}$

D.



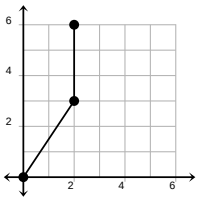
5. (SBAC F1) Select **all** relations that are functions.

A. $y = \frac{1}{2}x + \frac{1}{3}$

B.

x	y
-3	-7
-1	-1
-1	-4
0	2
4	10

C.



D.

$\{(-1,\ 0)\ (0,\ 1)\ (1,\ 1)\ (2,\ 2)\}$

6. What is the domain of the relation $\{(3,-1),\ (5,\ 2),\ (1,\ 7),\ (4,\ 3)\}$?

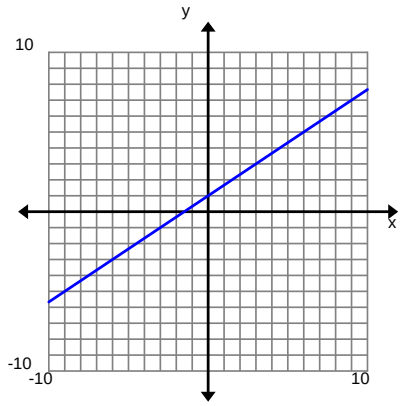
A. $\{-1,\ 2,\ 3,\ 7\}$

B. $\{1,\ 3,\ 4,\ 5\}$

C. $\{2,\ 7,\ 8\}$

D. $\{-1,\ 1,\ 2,\ 3,\ 4,\ 5,\ 7\}$

7. (SE F1) Which input/output pairs match the graph?



A. $\{(1,0)(-1,-3)(3,3)(5,6)\}$

B. $\{(0,1)(3,3)(-1,-3)(6,5)\}$

C. $\{(1,0)(6,5)(3,3)(-3,-1)\}$

D. $\{(0,1)(-3,-1)(3,3)(6,5)\}$

8. (SE F1) Which of the following tables represent functions?

I.

Input	Output
0	–5
1	–2
2	1
3	4

II.

Input	Output
0	1
0	2
3	3
6	4

III.

Input	Output
2	–11
0	–8
2	–4
4	–7

IV.

Input	Output
–3	2
–2	–2
−1	–6
0	−10

9. (SE/SBAC F1) For which equation is the set of ordered pairs a solution?

$$\{(1,-2),\ (0,-3),\ (2,-1),\ (-1,-4)\}$$

A. $y = x + 3$

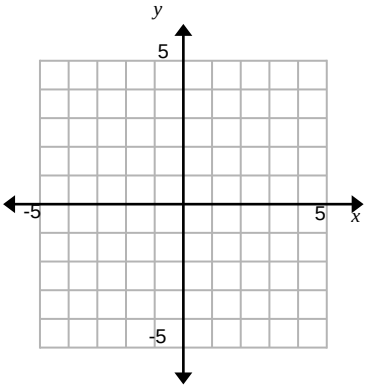
B. $y = 3x + 3$

C. $y = 3x - 3$

D. $y = x - 3$

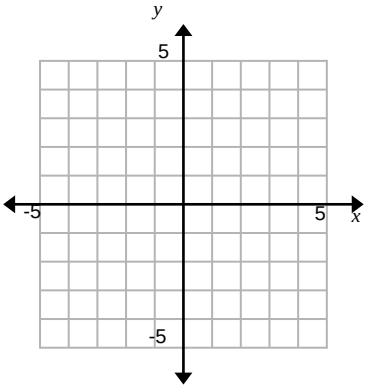
10. Graph $x = -2$.

x	y



11. Complete the table for $y = -2x + 1$. Graph.

x		y



12. (SBAC F2) Which table of values can be represented by the function $y = 2x - 1$?

A.

x	y
-4	-9
-3	-7
-2	-5
-1	-3
0	-1

B.

x	y
-9	-4
-7	-3
-5	-2
-3	-1
-1	0

C.

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

D.

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

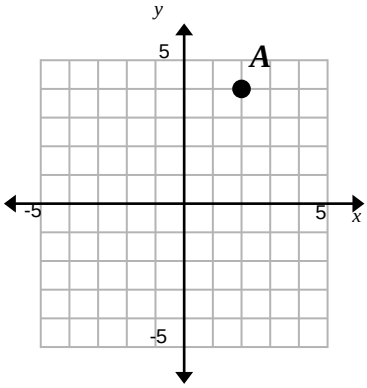
13. (SBAC F1) Fill in each *x*-value and *y*-value in the table to create a relation that is NOT a function.

x	y

14. (SBAC F1) Point *A* is plotted on the coordinate plane. Determine the location of a point *B* that meets the following criteria:

- Point *B* has integer coordinates
- The graph of line $\overleftrightarrow{AB}$ is NOT a function.

Point *B*: _____



Long term memory review:

15. (SBAC/SE) Put a check in all of the columns that apply for each number.

Number	Integer	Rational	Irrational	Real
$\frac{2}{5}$				
$\sqrt{13}$				
π				
-2				

16. (SE) What is the solution to the equation below? Show your work.

$$-2(-3x+1)-9x=4$$