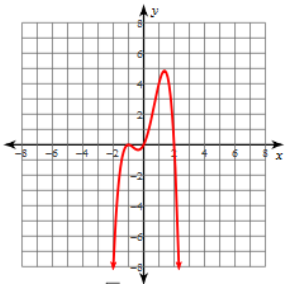
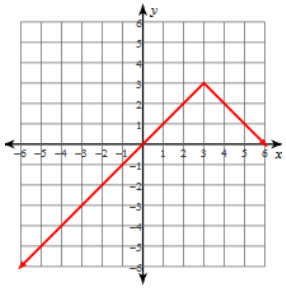
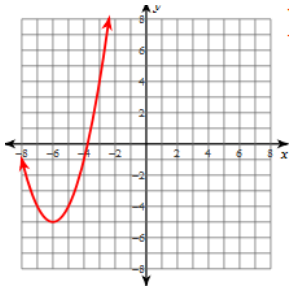
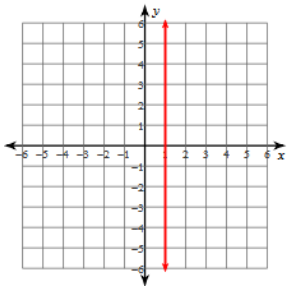
Algebra I Functions Test

1. Which of the following is NOT a function?

A. 

B. 

C. 

D. 

2. Which of the following is a function?

A.

x	y
-1	5
1	5
4	5
-4	5
1	-5

B.

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

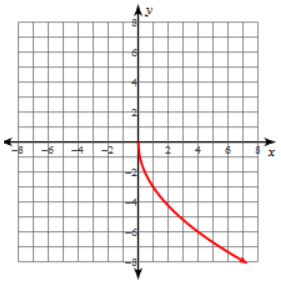
C.

x	y
2	2
3	3
4	4
5	5
6	6

D.

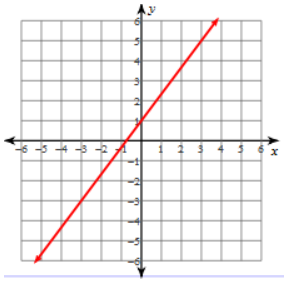
x	y
1	-4
4	2
-4	0
0	3
-4	-2

3. Select each graph or table that is a function. You must select ALL correct answers.

A. 

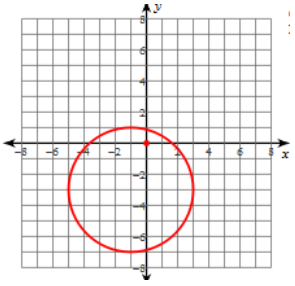
B.

x	y
6	0
-6	-2
6	2
-6	2
6	-2

C. 

D.

x	y
0	0
1	-1
-1	1
2	2
-2	-2

E. 

F.

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

4. The set of ordered pairs below is a function.

{ (5, 4) (3, 6) (2, 7) (8, 1) (x, y) }

Which could be the fifth ordered pair in the function?

A. (9, 6) B. (5, 7) C. (2, 1) D. (8, 3)

5. The set of ordered pairs below is a function.

{ (3, 4) (2, 5) (6, 0) (9, 1) (x, y) }

Which could be NOT the fifth ordered pair in the function?

A. (1, 4) B. (2, 7) C. (8, 4) D. (1, 8)

6. The set of ordered pairs below is a function.

{ (5, 0) (1, 3) (7, 6) (2, 4) (x, 9) }

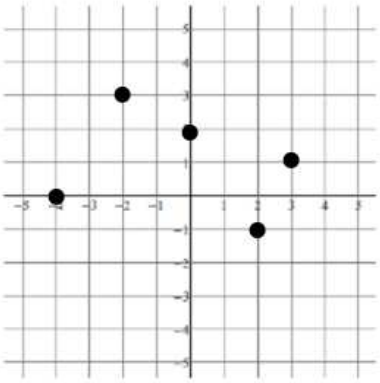
Which of the following could be the value of x in the fifth ordered pair of the function?

You must select all correct answers.

0 1 2 3 4 5 6 7 8 9

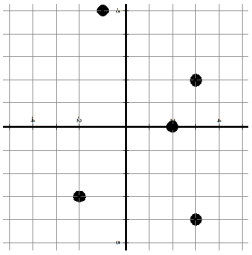
7. Fill in the table to create a relation which is equivalent to the graph below.

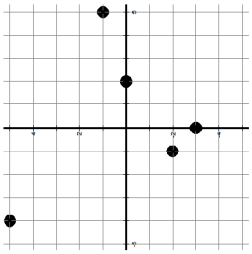
x		0		2	
y	0		3		

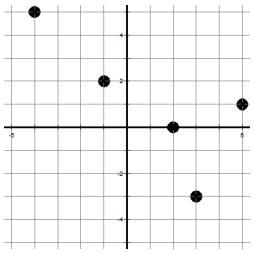


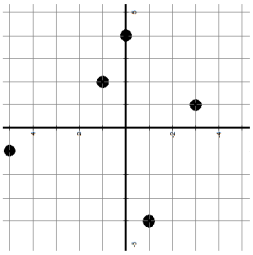
8. Which relation is equivalent to the following set of ordered pairs?

{ (2, 0) (3, 2) (3, –4) (–2, –3) (–1, 5)

A. 

B. 

C. 

D. 

9. Which two relations are equivalent?

A.

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

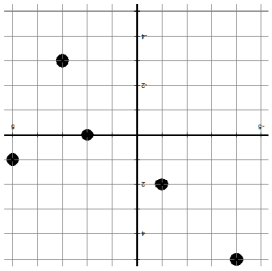
B.

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

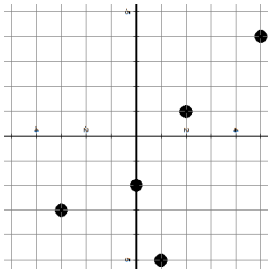
C.

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

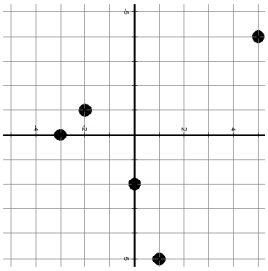
D.



E.



F.

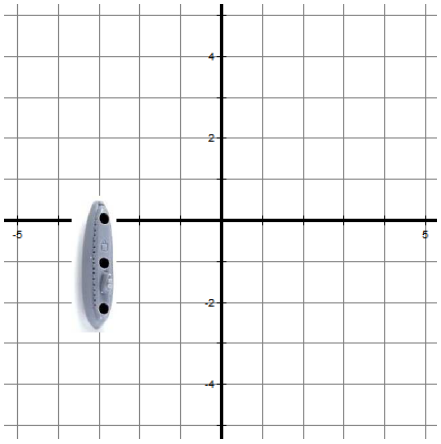


10. I'm playing Battleship and I caught a glance at where my opponent has his Submarine. Which of the following would be good guesses?

You must select ALL correct answers.

(–3, 0) (–3, 1) (0, –3)

(–3, –1) (–1, –3) (1, –3)



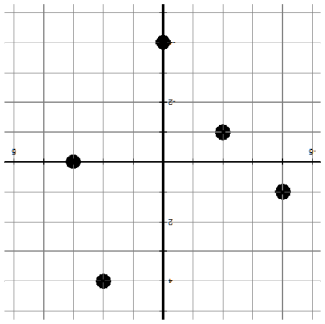
11. Which of the following gives the correct domain and range for the relation in the graph?

A. Domain: {–3, –2, 0, 2, 4}, Range: {–4, –1, 0, 1, 4}

B. Domain: {–4, –1, 0, 1, 4}, Range: {–4, –2, 0, 2, 3}

C. Domain: {–4, –1, 0, 1, 4}, Range: {–3, –2, 0, 2, 4}

D. Domain: {–4, –2, 0, 2, 3}, Range: {–4, –1, 0, 1, 4}



12. Which of the following gives the correct domain and range for the relation in the table?

A. Domain: {–5, –2, 0, 1, 4}, Range: {–5, –1, 0, 2}

B. Domain: {–5, –1, 0, 2}, Range: {–5, –2, 0, 1, 4}

C. Domain: {–4, –1, 0, 2, 5}, Range: {–2, 0, 1, 5}

D. Domain: {–2, 0, 1, 5}, Range: {–4, –1, 0, 2, 5}

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

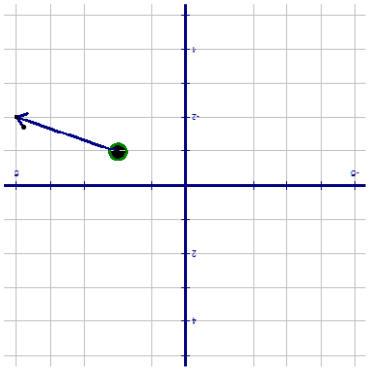
13. Select **4** ordered pairs to create a relation with domain {–3, 0, 1, 3}.

(–3, –2) (–1, 1) (2, –3) (0, –2) (3, 0) (1, –2) (–2, –3)

14. Select **4** ordered pairs to create a relation with range {–3, –1, 1}.

(–3, –2) (–1, 1) (2, –3) (0, –1) (3, 0) (1, –2) (–2, –3)

15. Which of the following gives the correct domain and range for the relation graphed?



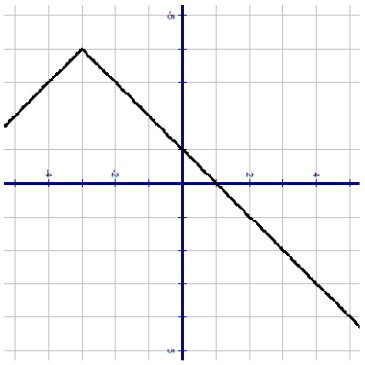
A. Domain: { $x \geq -2$ }, Range: { $y \geq 1$}

B. Domain: { $x \leq -2$}, Range: { $y \leq 1$}

C. Domain: { $x \geq -2$}, Range: { $y \leq 1$}

D. Domain: { $x \leq -2$}, Range: { $y \geq 1$}

16. Which of the following gives the correct domain and range for the relation graphed?



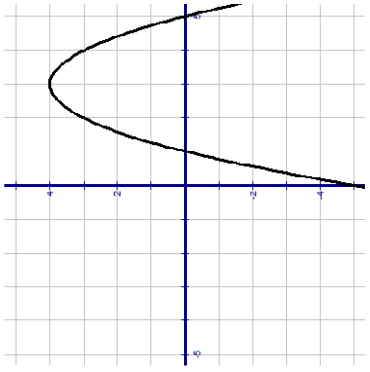
A. Domain: { x is a real number }, Range: { $y \leq 4$}

B. Domain: { x is a real number }, Range: { $y \geq 4$}

C. Domain: { $x \leq 4$}, Range: { y is a real number }

D. Domain: { $x \geq 4$}, Range: { y is a real number }

17. Select the domain and range for the relation graphed.



{ x is a real number } { $x \leq 3$ } { $x \geq 3$ } { $x \leq -4$ } { $x \geq -4$ }

{ y is a real number } { $y \leq 3$ } { $y \geq 3$ } { $y \leq -4$ } { $y \geq -4$ }

18. If $f(x) = 2x^2 + 3x$, what is $f(-9)$?

$f(-9) =$ _____

19. If $p(q) = q^2 + 4q - 12$, what is $p(-1)$?

$p(-1) =$ _____

20. The height (in feet) of a punted football is a function of the time the ball is in the air. The function is defined by $h(t) = -7t^2 + 48t$. What is the height of the football after 4 seconds?

_____ feet

21. The speed (m/s) an accelerating object is traveling is determined by the function $v(d) = 9.8d + 8$ where d is the distance the car has been accelerating. How fast is the object traveling after 50 meters?

_____ m/s

22. Find the range of the function $h(w) = 19 - 3w$ if the domain is $\{-4, -1, 2, 5\}$

A. $\{-34, -25, -16, -7\}$

B. $\{7, 15, 25, 34\}$

C. $\{4, 13, 22, 31\}$

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

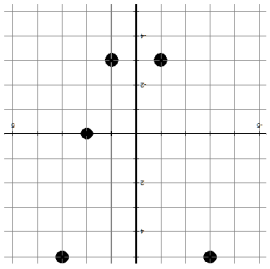
23. Select each ordered pair that is a member of the function $h(n) = 3n^2 - n$.

You must select ALL correct ordered pairs.

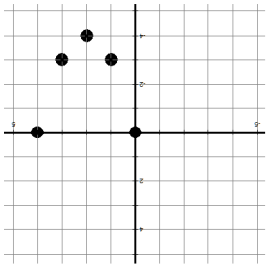
(–5, 8) (3, 42) (0, 0) (–2, –14) (–1, –4) (3, 6) (–2, 14) (–5, 80)

24. Which of the following contains only elements of the function $g(x) = -4x - x^2$?

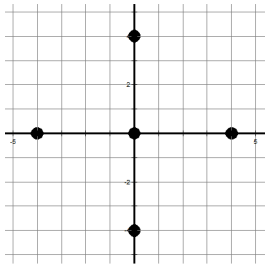
A.



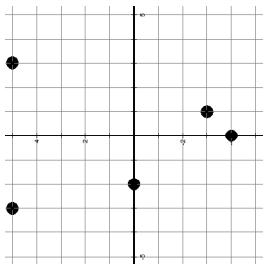
B.



C.



D.



25. Select each table that contains only elements of the function $j(n) = n^2 + 8n - 33$.

You must select ALL correct tables.

A.

n	j(n)
-5	-48
-3	-48
1	-24
4	15
5	32

B.

x	y
-5	98
-3	66
1	26
4	17
5	18

C.

n	j(n)
-4	-49
-3	-48
-2	-45
1	-24
5	32

D.

x	y
-4	17
-3	18
-2	21
1	42
5	98

E.

n	j(n)
-3	-48
-2	-45
-1	-40
2	-13
4	15

F.

n	j(n)
5	32
3	0
2	-13
-1	-40
-4	-49