NAME_____**DATE**_____**PER.**_____

Review: Functions – Part 1

1. Solve $-2(3x + 2) + 4x = 12$

2. If $3x + 12 = 48$, what is the value of $2x + 1$?

3. The length of a rectangle is $7a^4b^3$ and the width of the rectangle is $2a^5b^2$. Find the area of the rectangle using the formula $A = l \cdot w$

4. Simplify $4x – (7x – 2)$

5. Ms. Adams bought a refrigerator that cost $1200, including tax. The cost of electricity to run the refrigerator is estimated at $78 per year. Write an equation that can be used to find x, the number of years it will take for the total cost of the refrigerator to be $1500. *Do not solve.*

6. Write an inequality that could be used to help Ms. Adams from #5 determine x, how many years it will take for the total cost of her refrigerator to be more than $1600. *Do not solve.*

7. Alyssa is ordering a flower arrangement. She can choose any combination of roses and carnations for her flower arrangement, and she does not want to spend more than $30. If roses cost $4 each and carnations cost $3.25 each, which inequality represents all possible combinations of x roses and y carnations?

A. $4x + 3.25y > 30$

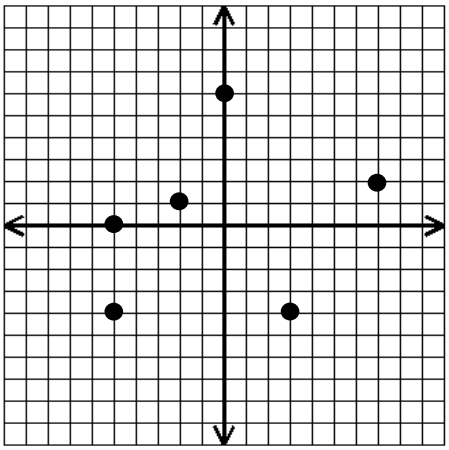
B. $4x + 3.25y \leq 30$

C. $3.25x + 4y > 30$

D. $3.25x + 4y \leq 30$

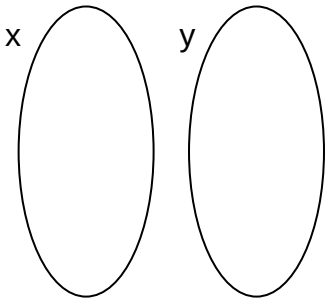
8. A cable company charges $75 for installation plus $20 per month. Another cable company does not charge an installation fee but charges $35 per month. For how many months of cable service would the total cost from either company be the same?

Use the graph shown to answer the questions 9-12.



9. List the ordered pairs

10. Create a mapping.

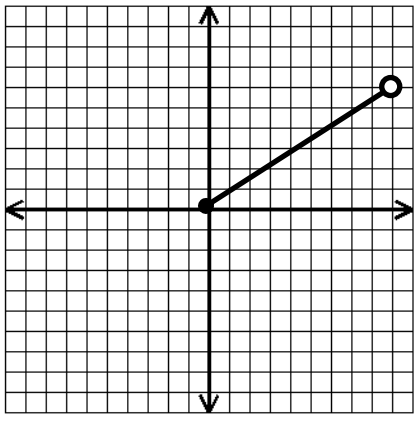


11. Domain:_____ Range:_____

12. Is the relation a function? Why or why not?

Identify the domain and range of each graph.

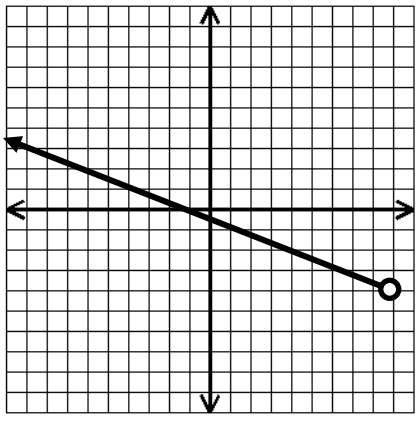
13.



D = _____

R = _____

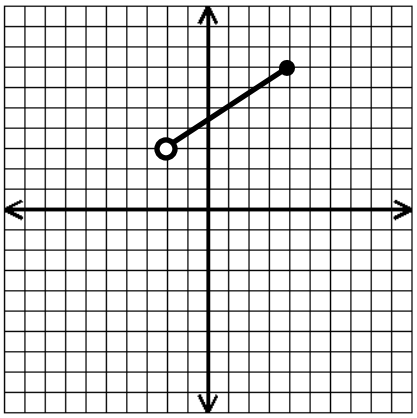
14.



D = _____

R = _____

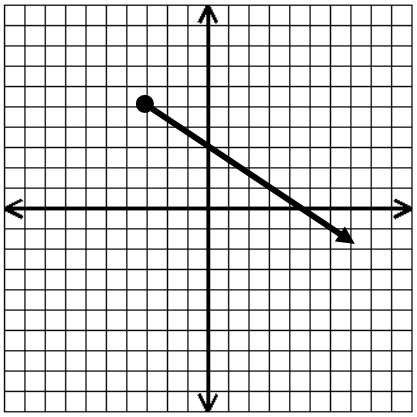
15.



D = _____

R = _____

16.



D = _____

R = _____

17. Which of the following relations is ***not*** a function?

A. {(3, 7), (5, -3), (3, 7)}

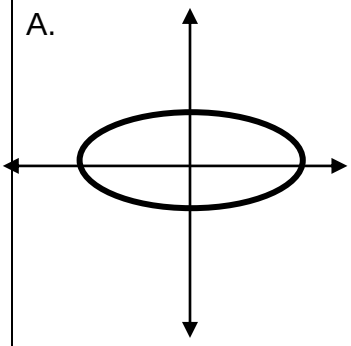
B. {(4, 4), (6, 6), (5, 5)}

C. {(3, 7), (5, 4), (9, -1)}

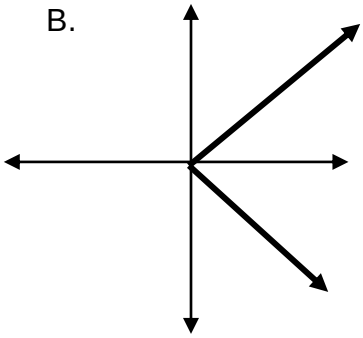
D. {(7, 3), (8, -6), (6, 5)}

18. Which of the following represents y as a function of x?

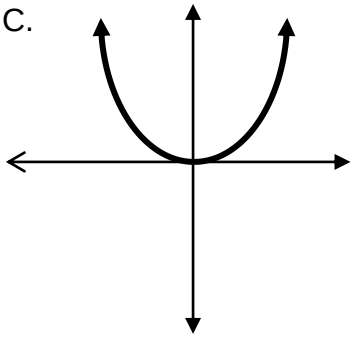
A.



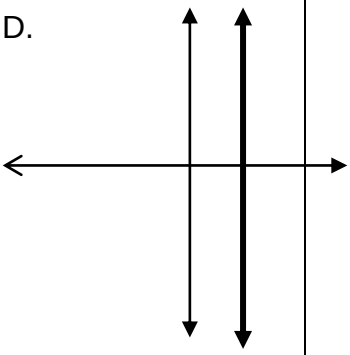
B.



C.



D.



19. Which of the following relations is a function?

I. {(3, 4), (4, 5), (3, 6)}
II. {(3, 4), (4, 4), (5, 4)}
III. {(3, 6), (3, 5), (3, 4)}
IV. {(3, 6), (4, 5), (5, 3)}

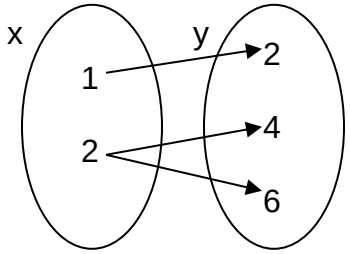
A. I and II only

B. II and IV only

C. I, II, and III only

D. II and III only

20. Which relation is represented by the mapping shown?



A. {(1, 2), (1, 4), (2, 6)}

C. {(2, 1), (4, 2), (6, 2)}

B. {(1, 4), (2, 2), (2, 6)}

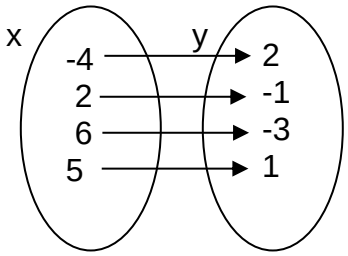
D. {(1, 2), (2, 4), (2, 6)}

21. Which table, mapping, or graph does ***not*** show the relation {(-4, 2), (2, -1), (6, -3), (5, 2)}?

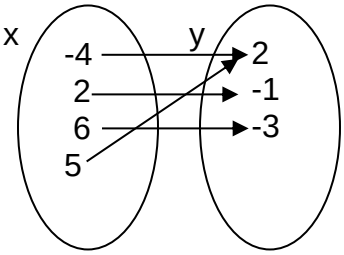
A.

x	-4	2	6	5
y	2	-1	-3	2

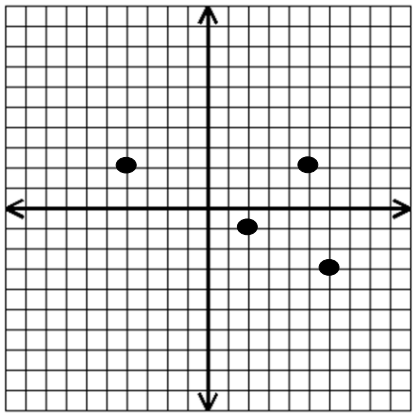
C.



B.

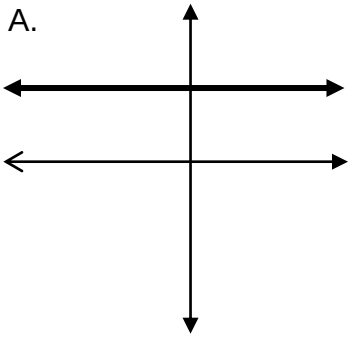


D.

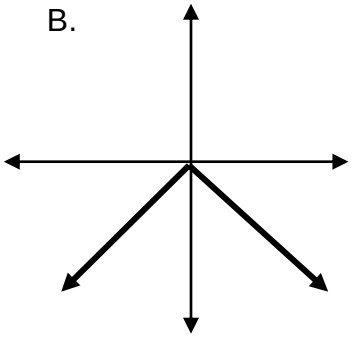


22. Which of the following graphs does ***not*** represent y as a function of x?

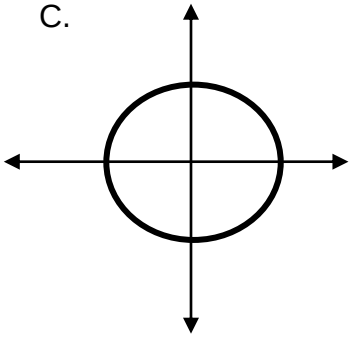
A.



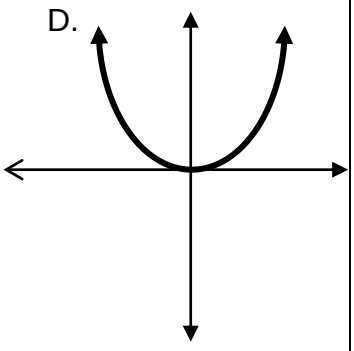
B.



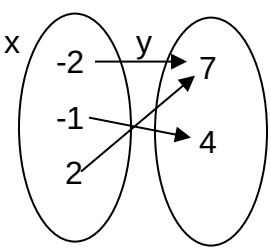
C.

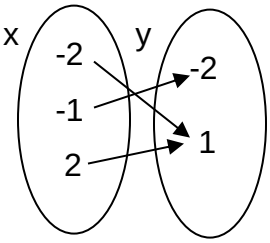


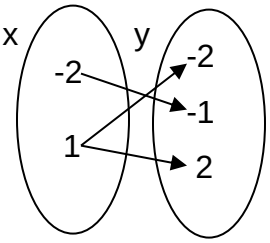
D.

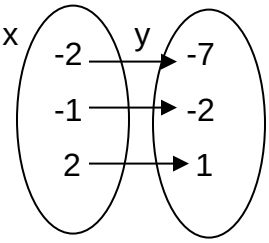


23. Which mapping best represents the function $y = x^2 - 3$ when the replacement set for x is {-2, -1, 2}?

A. 

B. 

C. 

D. 

24. Find the range for $f(x) = -3x^2 + 4$ for the domain D= {1, -2, -3}

If $f(x) = x^2 - 5$ and $g(x) = -4x + 2$, find each of the following.

25. f(-3) =	26. g(-2) =	27. g(-1) – f(2) =

If f(x) = {(-2, 7), (-1, 5), (0, 3), (1, 1), (2, -1), (5, -7)} find each of the following.

28. f(-1) =	29. f(-2) =	30. f(-1) – f(2) =
31. f(x) = 5; x =	32. If x = 2, find f(-2 + x) =	33. 3f(5) =

Answers in random order:

A	4	25	(-5, -4)	(7, 2)	$0 \leq x < 9$
B	4	-8	(-5, 0)	(-2, 1)	$-2 < x \leq 4$
(0, 6)	5	-21	$14a^9b^5$	$3 < y \leq 7$	{0, -4, 1, 6, 2}
C	5	10	(3, -4)	$y \leq 5$	{-5, -2, 0, 3, 7}
C	6	7	$0 \leq y < 6$	1200 + 78x = 1500	1200 + 78x > 1600
C	3	7	y > -4	{1, -8, -23}	the x-values are not all different
D	-1	No	x < 9	$x \geq -3$	-3x + 2