

Algebra IA: Chapter 4 Review Sheet

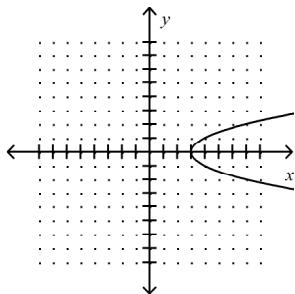
Short Answer

1. Jerry owns a printing business. He charges different prices for printing envelopes of different sizes. Identify the independent variable and the dependent variable.

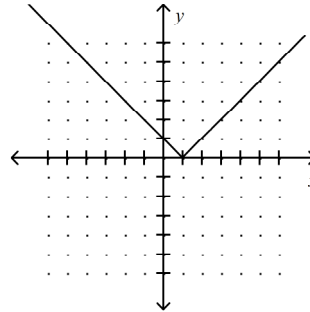
2. Tell whether the table of data represents a linear relationship. If it does not, explain why.

x	-3	-1	1	3
y	6	4	2	0

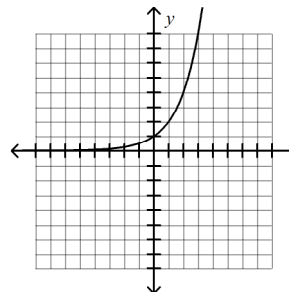
3. Tell whether the graph represents a function. If it does not, explain why.



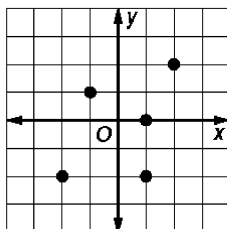
4. Tell whether the graph represents a function. If it does not, explain why.



5. For the function graphed below, what is $f(2)$?



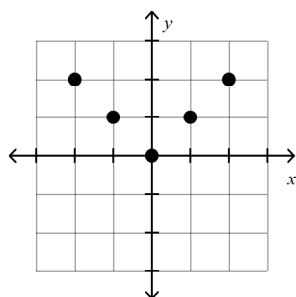
6. Tell whether the set of points represents a function. If it does not, explain why.



7. Tell whether the ordered pairs relation represents a function. If it does not, explain why.

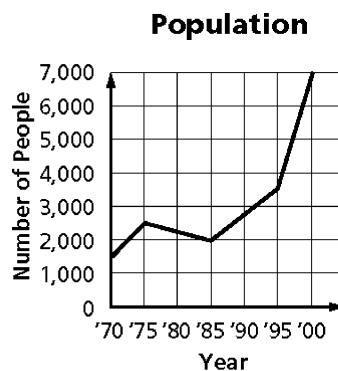
$$\{(4, -2), (2, -1), (-4, 3), (2, 1)\}$$

8. Tell whether the set of points represents a linear relationship. If it does not, explain why.



9. Eric rented a bicycle. The cost to rent the bicycle was based on the number of hours he used the bicycle plus a deposit. Identify the independent variable and the dependent variable.

10. The graph below shows the population in a small town from the years 1970 to 2000.



What are the domain and range shown on the graph?

11. Look at the function represented in the table below.

x	0	1	2	3	4
y	3	11	19	27	35

What is the value of $f(7)$?

12. If $f(x) = 3x + 5$, find $f(x - 5)$.

15. Write the next three terms of the arithmetic sequence.

28, 22, 16, 10, ...

13. Look at the function below.

$$f(x) = -x^2 - 2x + 3$$

What is the solution for $f(-4)$?

16. Write the common difference.

-6, -13, -20, -27, ...

17. Write the explicit formula for the arithmetic sequence.

-18, -11, -4, 3, ...

14. Tell whether the mapping represents a function. If it does not, explain why.

Input **Output**

0 → 3

2 → 5

4 → 8

2 → 8

18. Look at the function below.

$$f(x) = 8 - 5x - x^2$$

What is the solution for $f(3)$?

20. Look at the set of ordered pairs below.

$$\{(-3,0), (-2,-6), (-1,1), (0,2), (2,6), (6,2)\}$$

Write the set of numbers that represents the range.

19. The domain of $f(x)$ is $\{-2,0,3\}$. If $f(x) = 3x + 5$, what is the range?

21. Look at the function represented by the following data set.

$$\{(-3,9), (-2,7), (-1,5), (0,2), (2,-1)\}$$

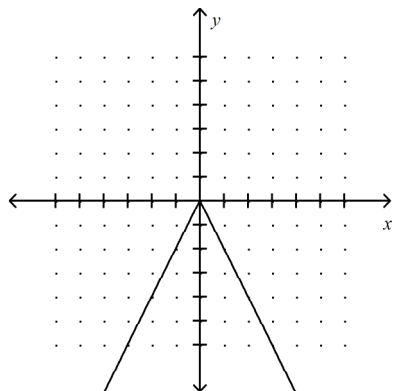
What is the value of y when x is 0?

22. The table below shows a functional relationship.

x	f(x)
-1	2
0	5
1	8

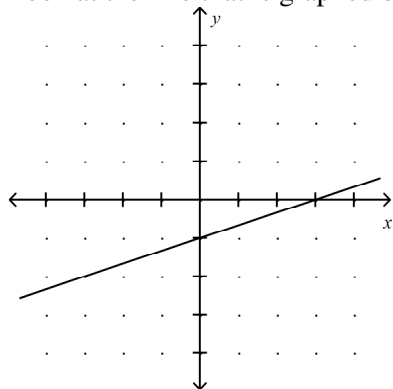
Find the value of $f(4)$.

23. Look at the function $f(x)$, that is graphed below.



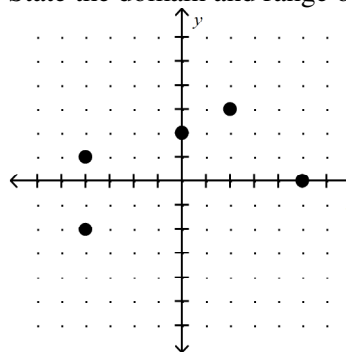
What is the value of $f(-2)$?

24. Look at the line that is graphed below.

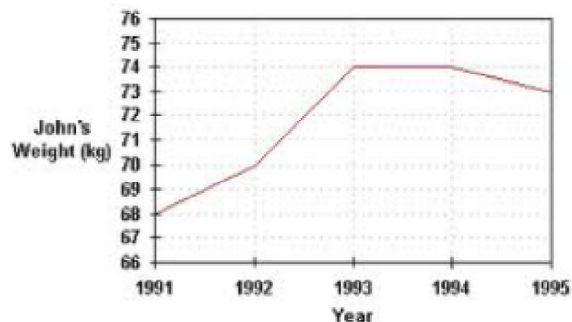


What is the value of y when x is -3 ?

25. State the domain and range of the graphed relation.



26. The graph below shows John's weight over a period of years.
What are the domain and range of the data shown on the graph?



27. Write the next three terms of the arithmetic sequence.

21, 29, 37, 45, ...

29. Write the explicit formula for the arithmetic sequence.

4, -3, -10, -17, ...

28. Write the common difference.

-7, 4, 15, 26, ...

30. Using the given function, create a table that has the following domain: $D = \{-2, -1, 0, 1, 2\}$. Use complete sentences to explain why the table represents a linear relationship.

Function: $f(x) = -5x + 3$