

Name: _____

Date: _____

Algebra Honors ch 4 Practice Test

Multiple Choice

Identify the choice that best completes the statement or answers the question.

Find the domain.

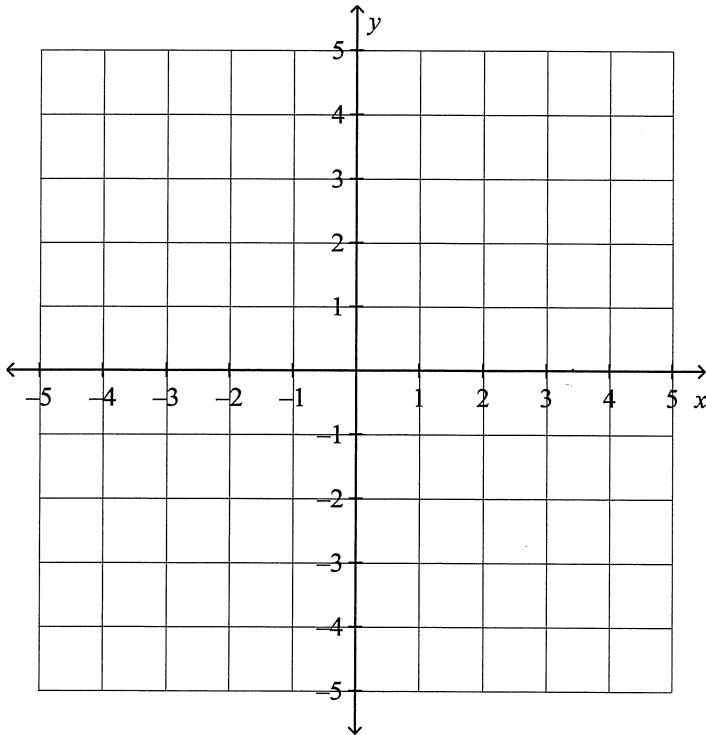
_____ 1. $g(x) = \frac{1}{x-7}$

- a. $\{x : x \neq 7\}$
b. $\{x : x \neq -7\}$

- c. $\{x : x > 7\}$
d. $\{x : x < -7\}$

Short Answer

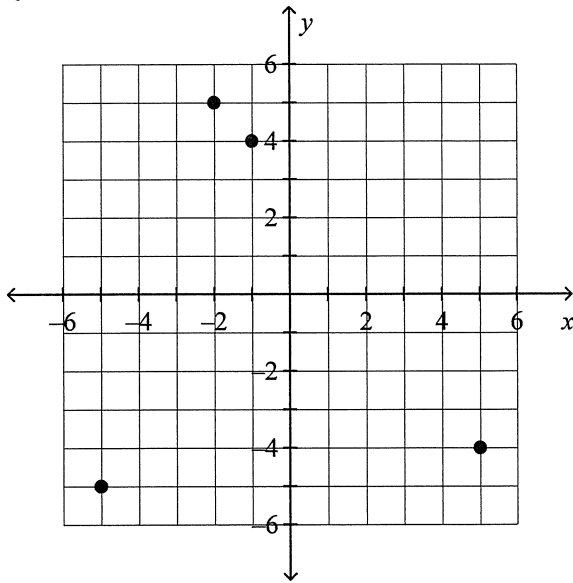
2. Graph the points on the same coordinate plane.
 $A(1, -3)$, $B(4, 1)$, $C(4, 0)$



3. Find the range of $f(x) = 3x + 6$ for the domain $\{-1, 3, 5, 8\}$.

Use the vertical line test to determine whether the relation is a function.

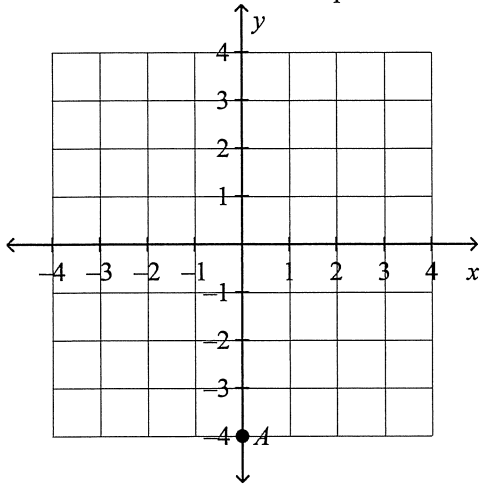
4. $\{(-2, 5), (-1, 4), (-5, -5), (5, -4)\}$



Is the equation a direct variation? If it is, find the constant of variation.

5. $-6x = 3y$

6. What are the coordinates of point A ?



Use inductive reasoning to describe the pattern. Then find the next two numbers in the pattern.

7. $1, -3, 9, -27, \dots$

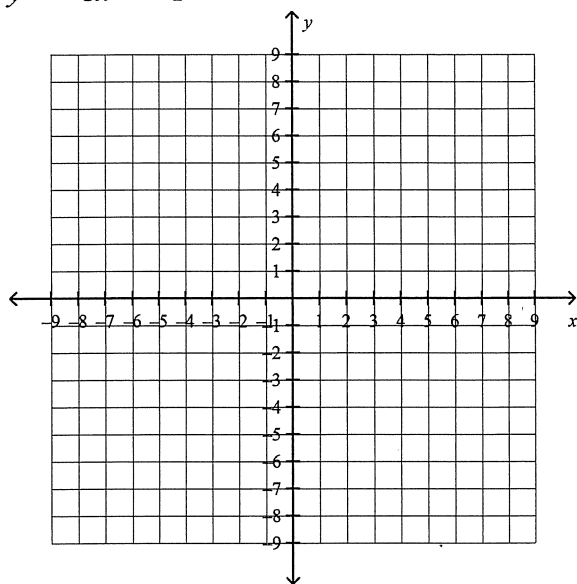
8. $-2, 0, 2, 4, \dots$

9. **Solve**

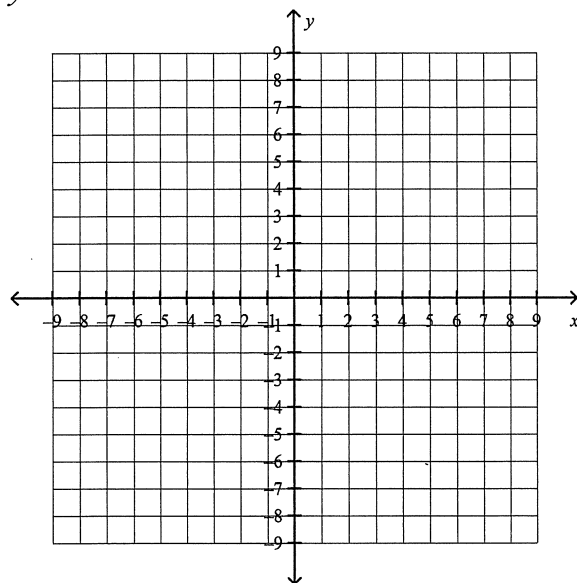
The time t required to drive a certain distance varies inversely with the speed r . If it takes 4 hours to drive the distance at 30 miles per hour, how long will it take to drive the same distance at 45 miles per hour?

Graph the function.

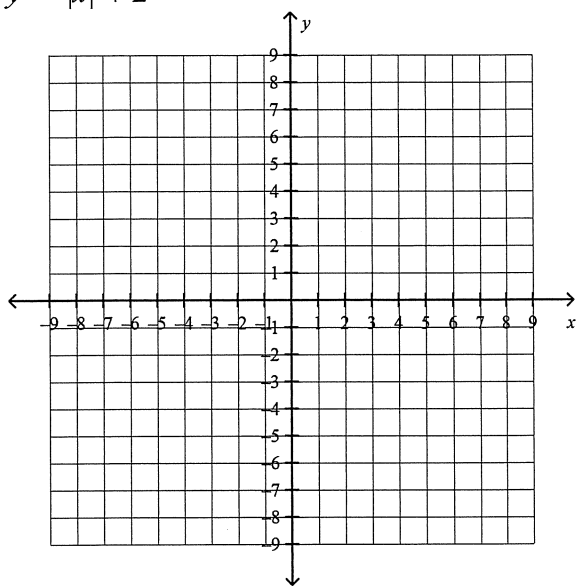
10. $y = -3x^2 - 1$



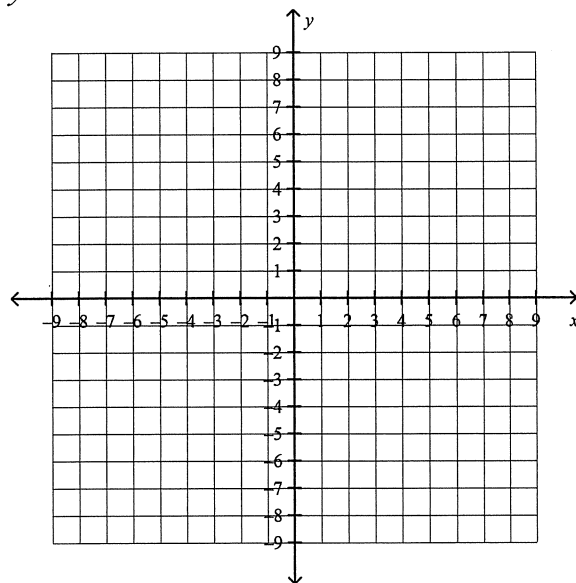
11. $y = -2x + 3$



12. $y = |x| + 2$



13. $y = x^2 - 1$



Write a function rule for the table.

14.

x	$f(x)$
0	0
1	-3
2	-6
3	-9

The pair of points is on the graph of an inverse variation. Find the missing value.

15. $(5, 3)$ and $(x, 4)$

16. In which quadrant or on which axis would you find the point $(2, 5)$?

17. Evaluate $f(x) = 3x + 2$ for $x = -1$.

18. Evaluate $f(x) = \frac{1}{3}x$ for $x = -6$.

19. Evaluate $f(x) = -x^2 - 3$ for $x = -2$.

20. Write a function rule that gives the total cost $c(p)$ of p pounds of sugar if each pound costs \$.39.

Find the constant of variation k for the direct variation.

21. $7x = -5y$

22. $4x - 6y = 0$

23. The total cost of gasoline varies directly with the number of gallons purchased. Gas costs \$1.82 per gallon. Write a direct variation to model the total cost c for g gallons of gas.

24. Write an equation of the direct variation that includes the point $(-4, 1)$.

25. Suppose that y varies inversely with x . Write an equation for the inverse variation.
 $y = 2$ when $x = 5$