

**Algebra 1 Part 1 Second Semester Final Exam Review Kestner/Moss****Multiple Choice**

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

Write an algebraic expression for the verbal expression.

- \_\_\_\_\_ 1. the product of 19 and *a number*
- |                |                  |
|----------------|------------------|
| a. $19 - y$    | c. $y + 19$      |
| b. $19 \div y$ | d. $19 \times y$ |

Write a verbal expression for the algebraic expression.

- \_\_\_\_\_ 2.  $5x^2 + 2$
- 5 times  $x$  squared less 2
  - five plus  $x$  squared plus 2
  - the product of 5 times  $x$  squared and 2
  - five times  $x$  squared plus 2

Evaluate the expression.

- \_\_\_\_\_ 3.  $-3 + 5(-3)^2(4) + 9$
- |        |        |
|--------|--------|
| a. 81  | c. 582 |
| b. 906 | d. 186 |
- \_\_\_\_\_ 4.  $50 - 3(8 - 5)$
- |       |        |
|-------|--------|
| a. 89 | c. 21  |
| b. 41 | d. 141 |
- \_\_\_\_\_ 5. Evaluate the following expression if  $a = 10$ ,  $b = 4$ , and  $c = 6$ .  
 $3c + bc - 2a$
- |        |        |
|--------|--------|
| a. 178 | c. 160 |
| b. 22  | d. 40  |
- \_\_\_\_\_ 6. Find the solution of the equation if the replacement set is  $b = \{27, 77, 143, 120, 117\}$ .  
 $\frac{b}{9} - 5 = 8$
- |       |        |
|-------|--------|
| a. 77 | c. 117 |
| b. 27 | d. 143 |

Simplify the expression. If not possible, write simplified.

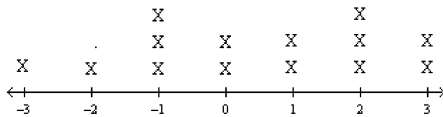
- \_\_\_\_\_ 7.  $6(8d + 7m - 6m)$
- |                |               |
|----------------|---------------|
| a. $48d + 78m$ | c. $48d + 6m$ |
| b. $54dm$      | d. simplified |



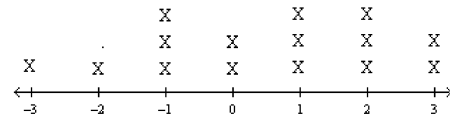
Use the set of data to make a line plot.

15. -1 2 3 -1 3 0 1 -1 2 -3 0 1 -2 2 1

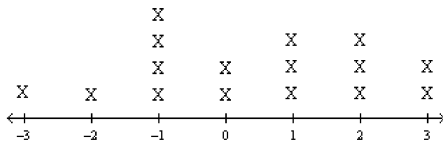
a.



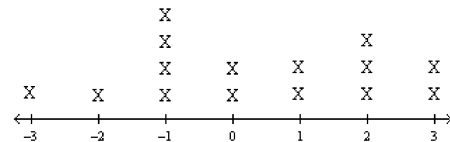
c.



b.



d.

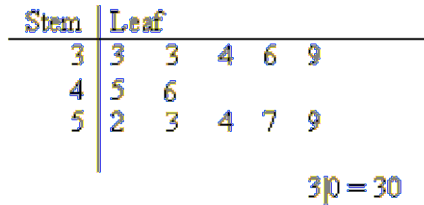


Use the set of data to make a stem-and-leaf plot.

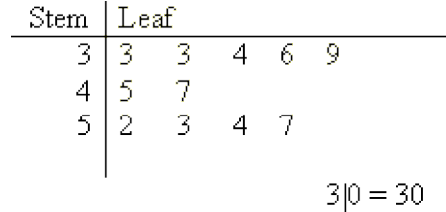
16. 

47	45	53	33	34	39	36	33	52	57	54	59
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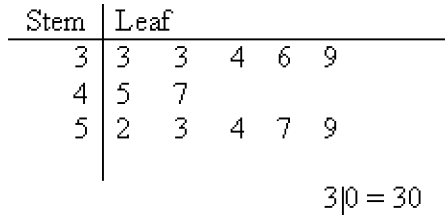
a.



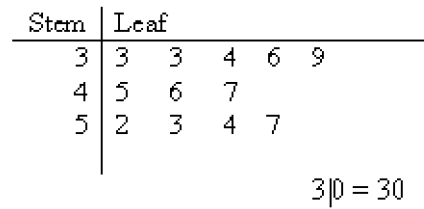
c.



b.



d.



Anthony's math scores for the quarter are 90, 91, 72, 91, 92, 92, 92, 91, 90, 90, and 91.

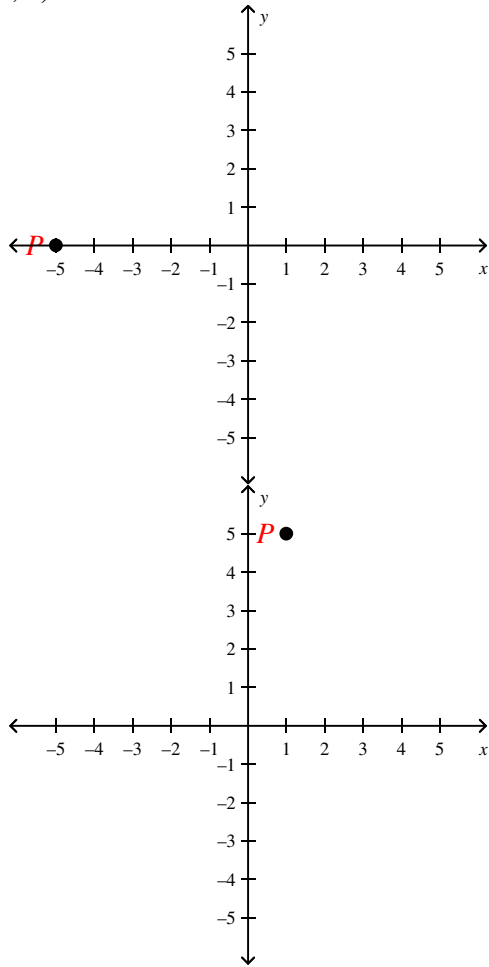
17. Find the mean, median, and mode of Anthony's math scores. Round answers to the nearest tenth if necessary.
- a. 89.3, 91, 90                      c. 89.3, 91, 91
- b. 89.3, 93, 91                        d. 92.3, 91, 91



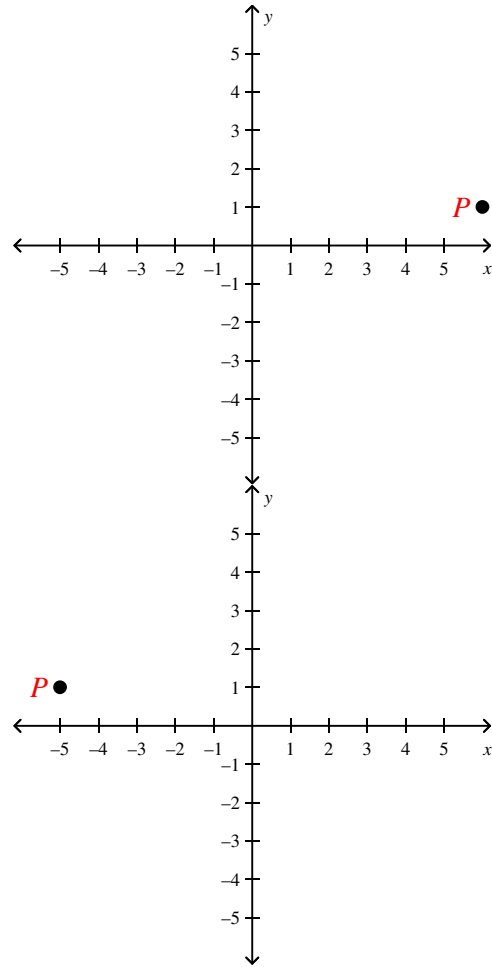
Plot the point on a coordinate plane.

\_\_\_\_\_ 26.  $P(-5, 1)$

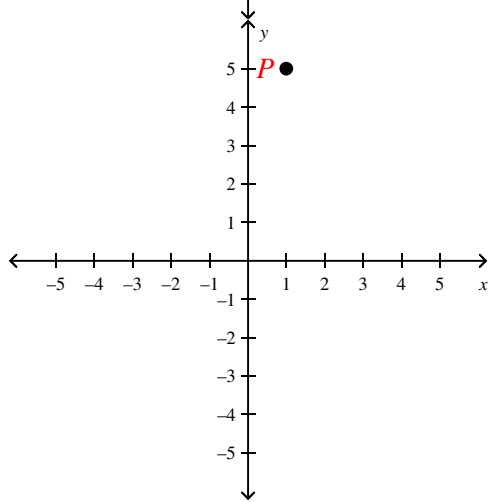
a.



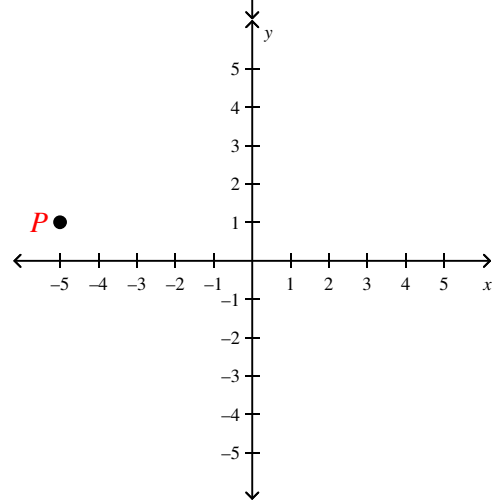
c.



b.



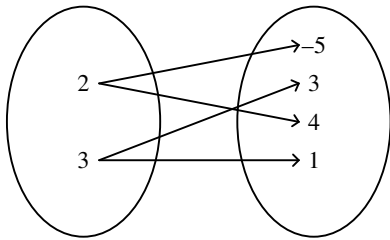
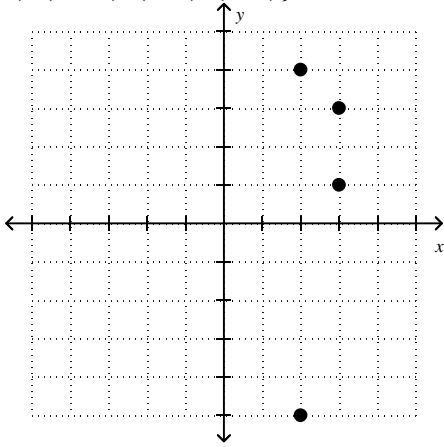
d.



Express each relation as a graph and a mapping. Then determine the domain and range.

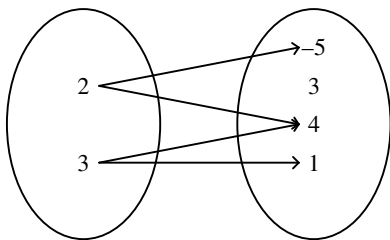
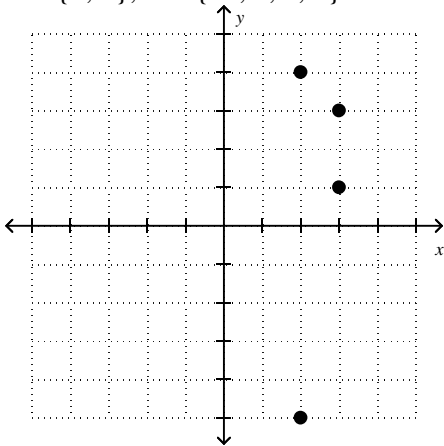
27.  $\{(3, 1), (2, -5), (2, 4), (3, 3)\}$

a.



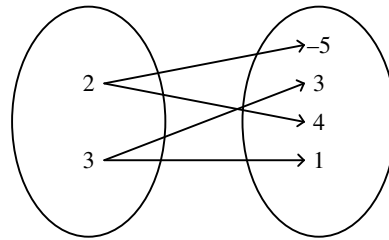
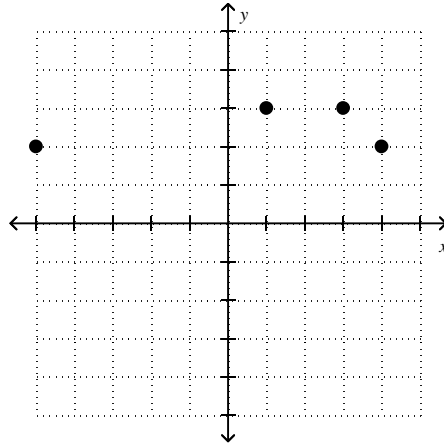
$D = \{2, 3\}; R = \{-5, 1, 3, 4\}$

b.



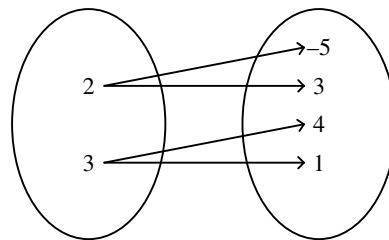
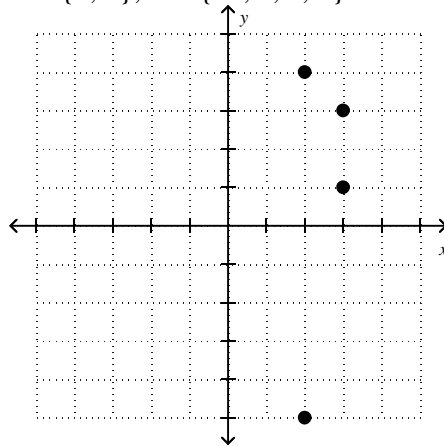
$D = \{2, 3\}; R = \{-5, 1, 3, 4\}$

c.



$D = \{2, 3\}; R = \{-5, 1, 3, 4\}$

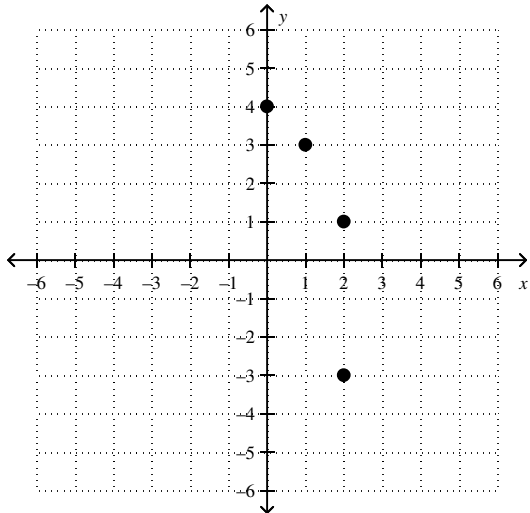
d.



$D = \{2, 3\}; R = \{-5, 1, 3, 4\}$

Express the relation shown in each table, mapping, or graph as a set of ordered pairs. Then write the inverse of the relation.

\_\_\_\_\_ 28.



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

Find the solution set for the equation, given the replacement set.

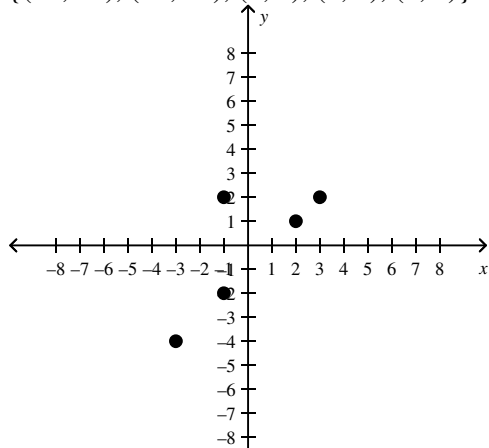
\_\_\_\_\_ 29.  $y = -8x - 3; \{(1, 6), (-1, 5), (0, 8), (-2, 3)\}$

- $\{(-2, 3)\}$
- $\{(-1, 5)\}$
- $\{(0, 8)\}$
- $\{(1, 6)\}$

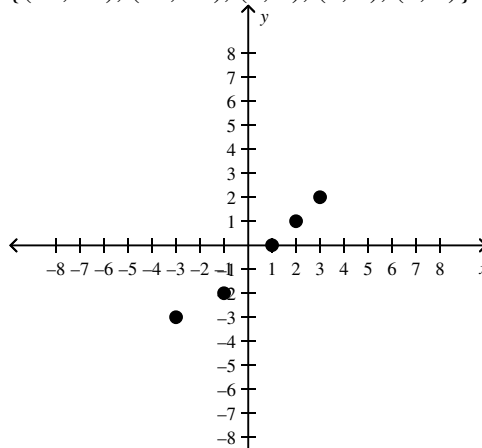
Solve the equation for the given domain. Graph the solution set.

30.  $y = x - 1$  for  $x = \{-3, -1, 1, 2, 3\}$

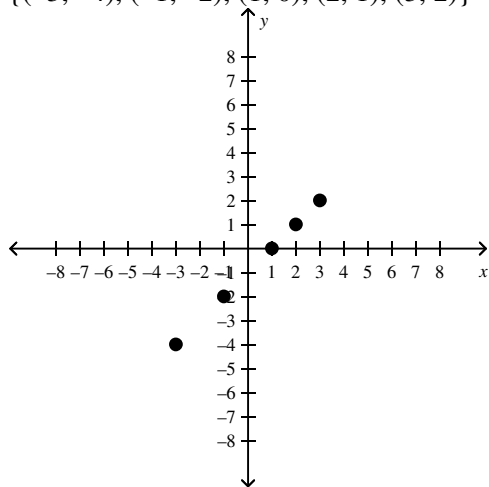
a.  $\{(-3, -4), (-1, -2), (1, 0), (2, 1), (3, 2)\}$



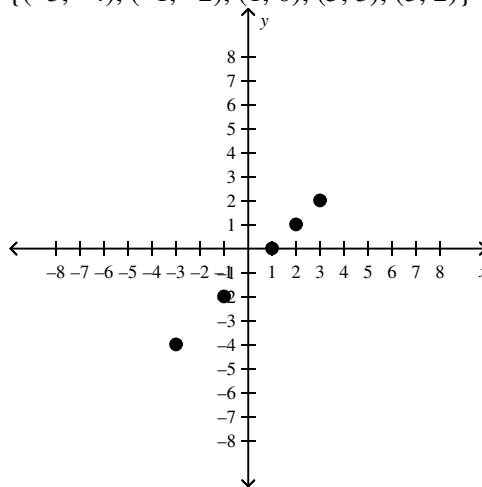
c.  $\{(-3, -3), (-1, -2), (1, 0), (2, 1), (3, 2)\}$



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



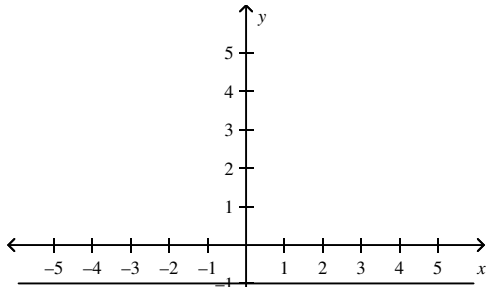
d.  $\{(-3, -4), (-1, -2), (1, 0), (5, 3), (3, 2)\}$



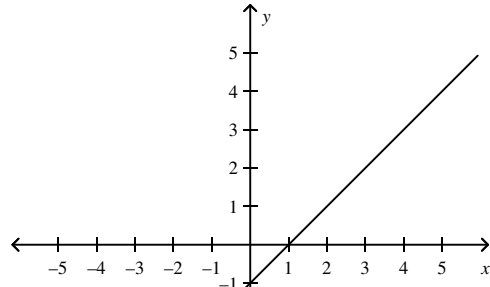
Graph the equation.

\_\_\_\_\_ 31.  $y = 4x - 1$

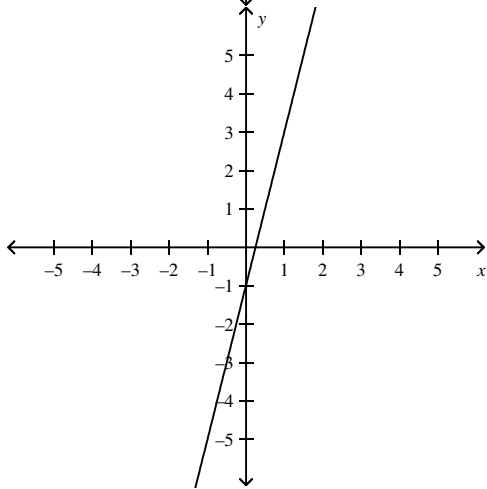
a.



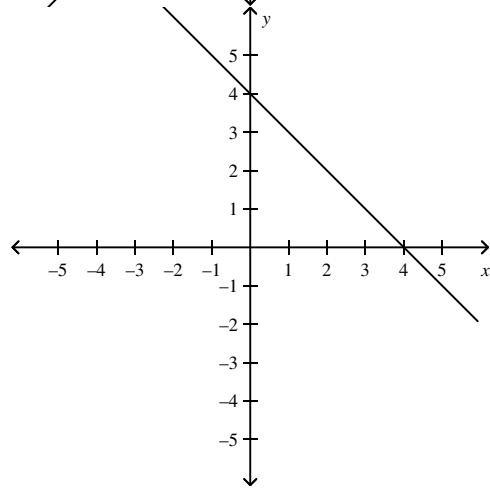
c.



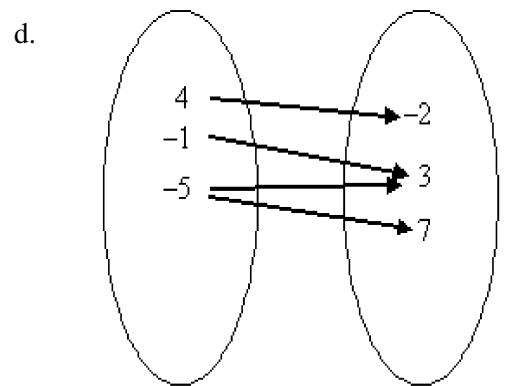
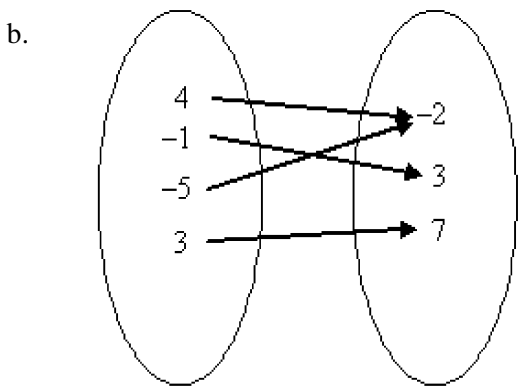
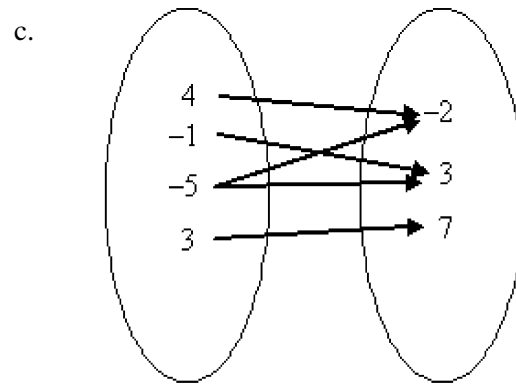
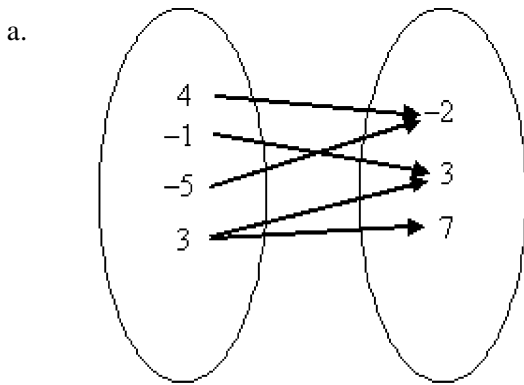
b.



d.



\_\_\_ 32. Which relation is a function?



\_\_\_ 33. Which relation is a function?

a.

x	y
3	8
5	10
6	6
9	-2

c.

x	y
3	8
5	10
6	6
5	-2

b.

x	y
3	8
5	10
3	6
9	-2

d.

x	y
6	8
5	10
6	6
9	-2

\_\_\_ 34. Which relation is a function?

- a.  $\{(5, 3), (2, 8), (-5, -1), (4, 7), (2, 1)\}$   
 b.  $\{(5, 3), (2, 8), (-5, -1), (4, 7), (5, 7)\}$

- c.  $\{(-5, 3), (2, 8), (-5, -1), (4, 7), (2, 2)\}$   
 d.  $\{(5, 3), (2, 8), (-5, -1), (4, 7), (-2, 1)\}$

- \_\_\_\_\_ 35. If  $g(x) = x^2 - 4x + 7$ , find  $g(-1)$ .
- a. 4  
b. 12  
c. -2  
d. 10

*Find the slope of the line that passes through the pair of points.*

- \_\_\_\_\_ 36.  $(-2, 0), (-5, 4)$
- a.  $-\frac{3}{4}$   
b.  $-\frac{4}{3}$   
c.  $\frac{4}{3}$   
d.  $\frac{3}{4}$

*Write a direct variation equation that relates  $x$  and  $y$ . Assume that  $y$  varies directly as  $x$ . Then solve.*

- \_\_\_\_\_ 37. If  $y = 2$  when  $x = -6$ , find  $y$  when  $x = 1$ .
- a.  $y = -\frac{2}{3}x; -\frac{2}{3}$   
b.  $y = \frac{1}{3}x; \frac{1}{3}$   
c.  $y = -\frac{1}{3}x; -\frac{1}{3}$   
d.  $y = -\frac{1}{3}x; -\frac{1}{2}$

*Write an equation of the line with the given slope and  $y$ -intercept*

- \_\_\_\_\_ 38. slope:  $-\frac{1}{4}$ ,  $y$ -intercept: 10
- a.  $y = \frac{1}{4}x + 10$   
b.  $y = -4x + 10$   
c.  $y = -\frac{1}{4}x + 10$   
d.  $y = -\frac{1}{4}x - 10$

*Write an equation of the line that passes through each point with the given slope.*

- \_\_\_\_\_ 39.  $(-2, 3), m = 1$
- a.  $y = x + 5$   
b.  $y = x - 5$   
c.  $y = x - 1$   
d.  $y = -x + 5$

*Write an equation of the line that passes through the pair of points.*

- \_\_\_\_\_ 40.  $(5, -1), (7, -5)$
- a.  $y = -2x + 9$   
b.  $y = 2x + 9$   
c.  $y = -2x - 9$   
d.  $y = -2x - 19$

*Write the point-slope form of an equation for a line that passes through the point with the given slope.*

- \_\_\_\_\_ 41.  $(-6, 2), m = -3$
- a.  $y - 2 = -3(x - 6)$   
b.  $y - 2 = -3(x + 6)$   
c.  $y + 2 = -3(x + 6)$   
d.  $y - 2 = 3(x + 6)$

Write the equation in slope-intercept form.

\_\_\_\_\_ 42.  $y + 2 = -3(x - 3)$

a.  $y = 3x + 7$

b.  $y = -3x - 7$

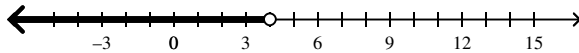
c.  $y = -3x + 7$

d.  $y = -3x - 17$

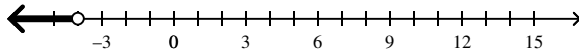
Solve the inequality. Graph the solution on a number line.

\_\_\_\_\_ 43.  $k - 7 < 3$

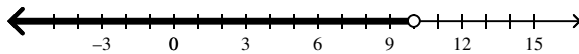
a.  $k < 4$



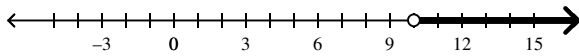
b.  $k < -4$



c.  $k < 10$



d.  $k > 10$



Solve the inequality.

\_\_\_\_\_ 44.  $\frac{b}{15} \geq 8$

a.  $b \geq 23$

b.  $b \geq 128$

c.  $b \geq -120$

d.  $b \geq 120$

\_\_\_\_\_ 45.  $-10f < -60$

a.  $f > 600$

b.  $f < -50$

c.  $f < 6$

d.  $f > 6$

\_\_\_\_\_ 46.  $5a + 6 - 7a > 16$

a.  $a < -5$

b.  $a > 2$

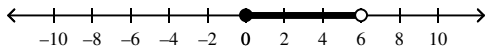
c.  $a > -5$

d.  $a < -11$

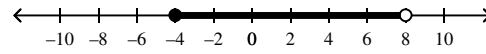
Solve the compound inequality and graph the solution set.

\_\_\_\_\_ 47.  $u + 5 \geq 1$  and  $u - 4 < 4$

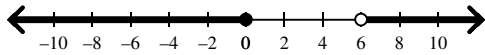
a.  $0 \leq u < 6$



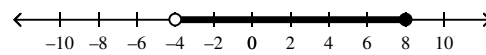
c.  $-4 \leq u < 8$



b.  $0 \leq u < 6$

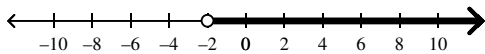


d.  $-4 \leq u < 8$

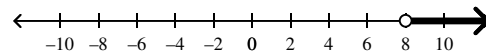


\_\_\_\_\_ 48.  $g - 9 > -1$  or  $g + 4 > 2$

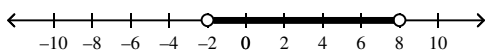
a.  $g > -2$



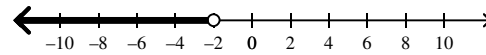
c.  $g > 8$



b.  $-2 < g < 8$



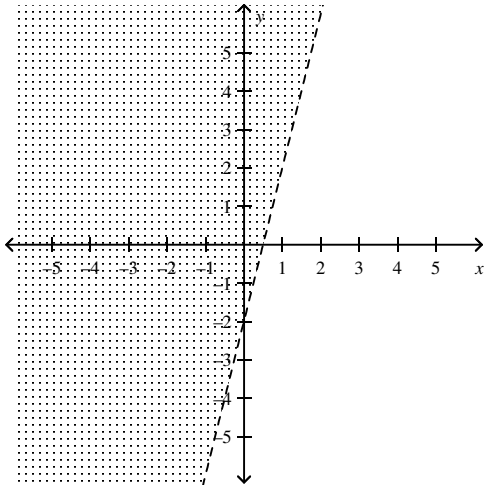
d.  $g < -2$



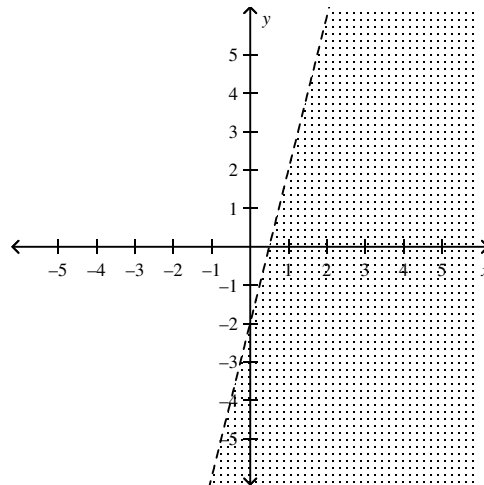
Graph the inequality or equation.

49.  $y \leq 4x - 2$

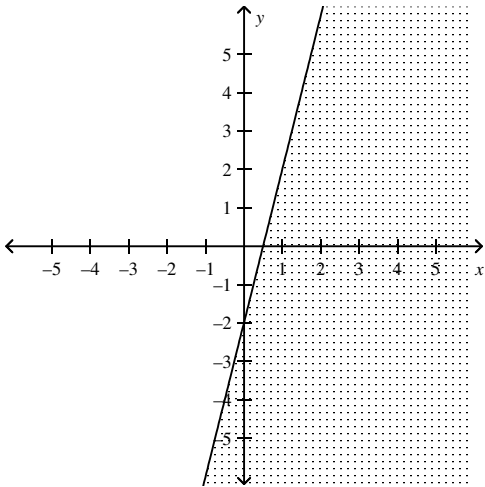
a.



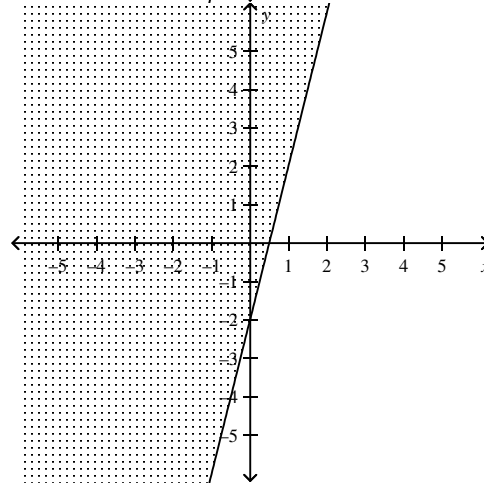
c.



b.

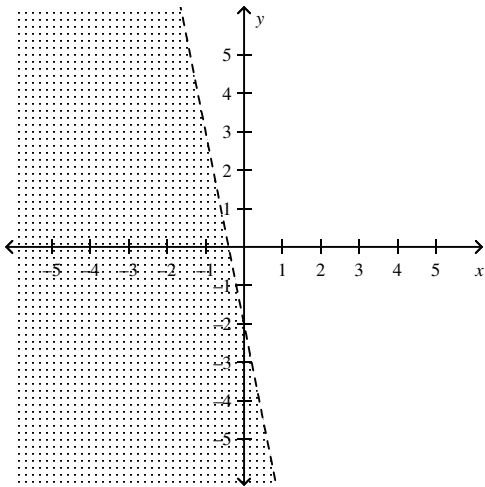


d.

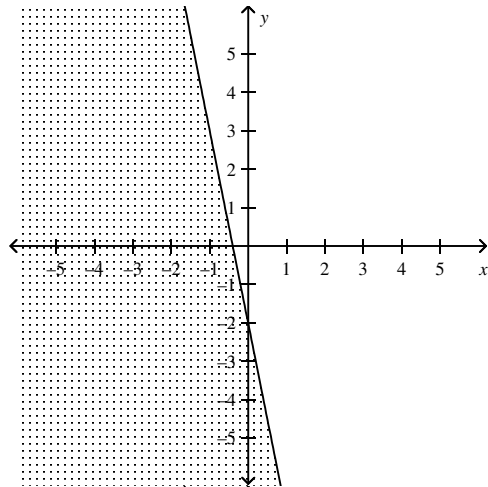


50.  $2y + 4 > -10x$

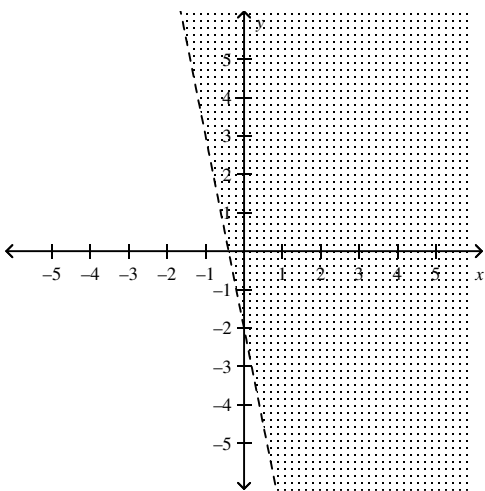
a.



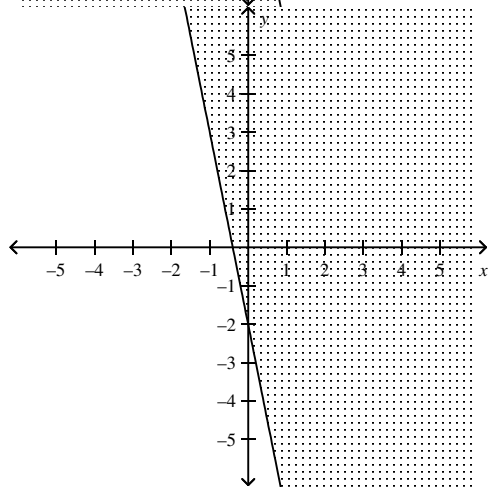
c.



b.



d.

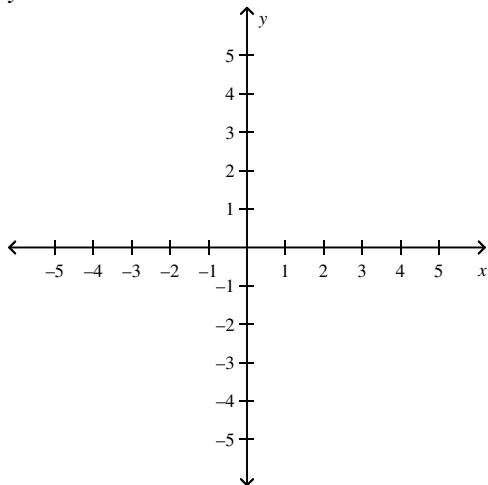


**Completion**

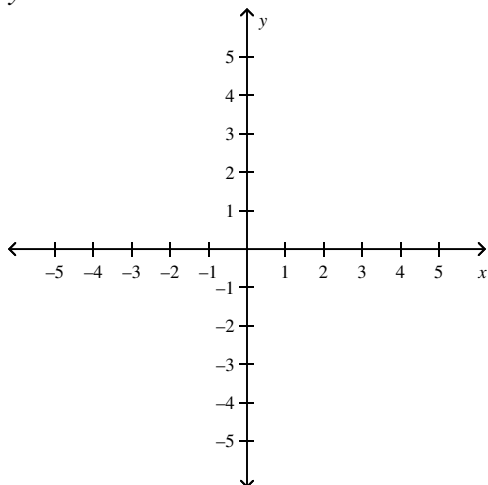
Complete each sentence or statement.

*Graph the inequality or equation.*

51.  $y = 2x - 4$



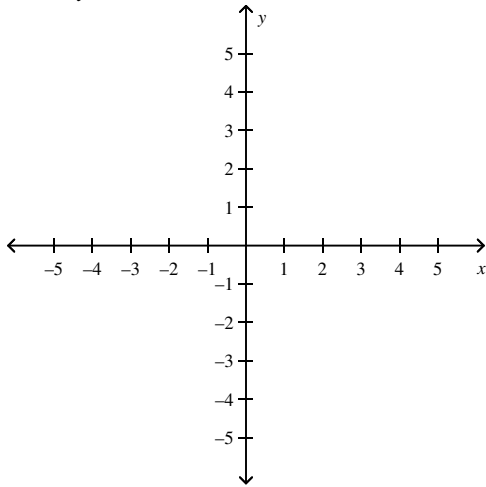
52.  $y = 5$



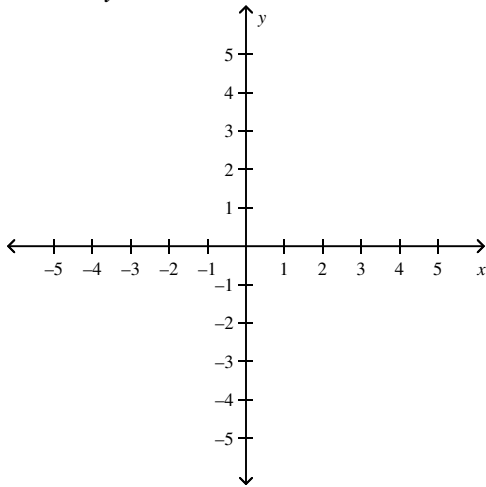
Name: \_\_\_\_\_

ID: A

53.  $-3x + y = 2$



54.  $-12x - 4y = -8$



55.  $6x - 3 = 3y$

