

Sample Test to Determine Placement in Honors Algebra I or Honors Geometry

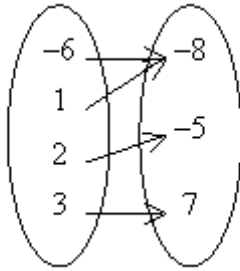
Multiple Choice

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

- _____ 1. Identify the mapping diagram that represents the relation and determine whether the relation is a function.

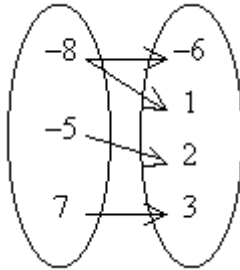
$$\{(-8, -6), (-5, 2), (-8, 1), (7, 3)\}$$

a.



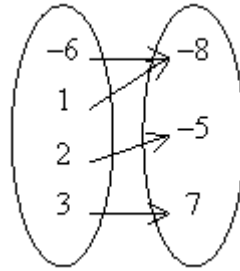
The relation is a function.

b.



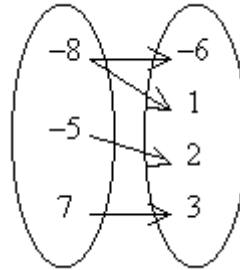
The relation is a function.

c.



The relation is not a function

d.



The relation is not a function.

- _____ 2. Evaluate $f(x) = \frac{1}{3}x$ for $x = 4$.

a. $1\frac{1}{3}$

b. $\frac{1}{12}$

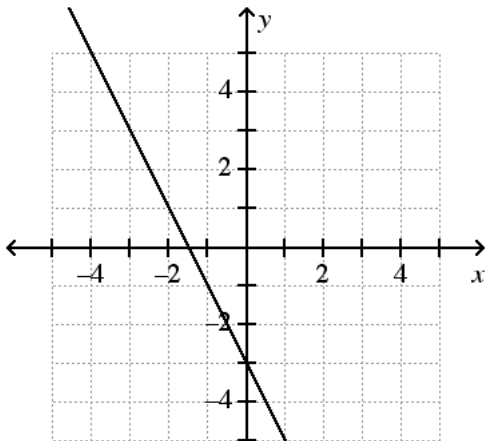
c. $\frac{3}{4}$

d. -12

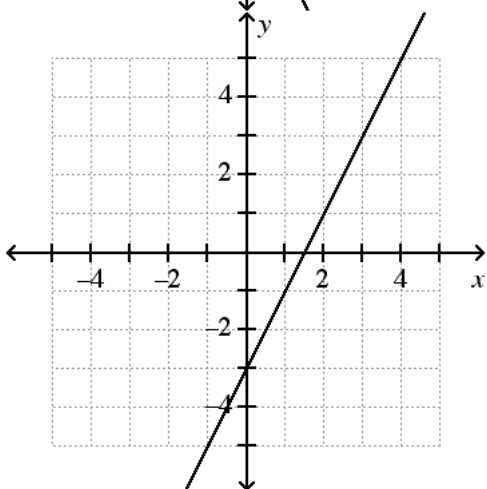
Graph the function.

3. $y = -2x + 3$

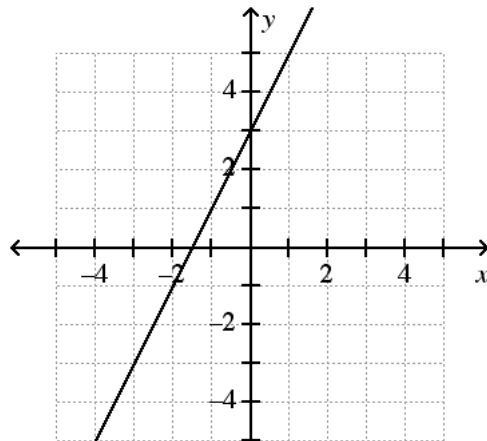
a.



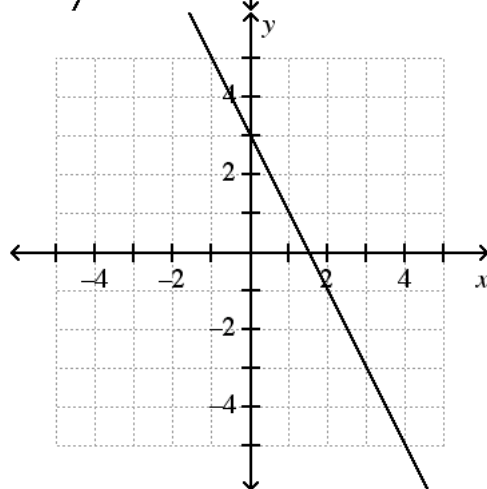
b.



c.

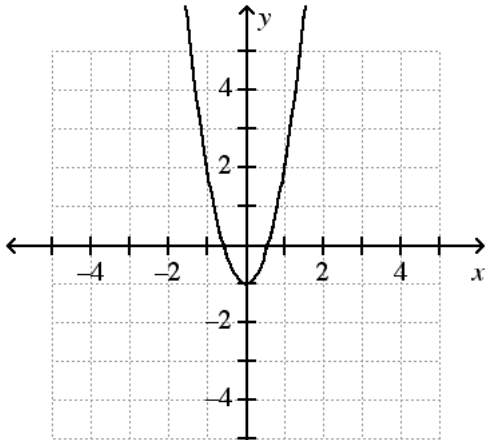


d.

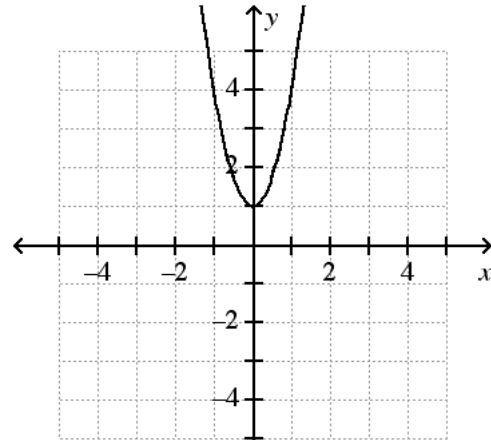


4. $y = -3x^2 - 1$

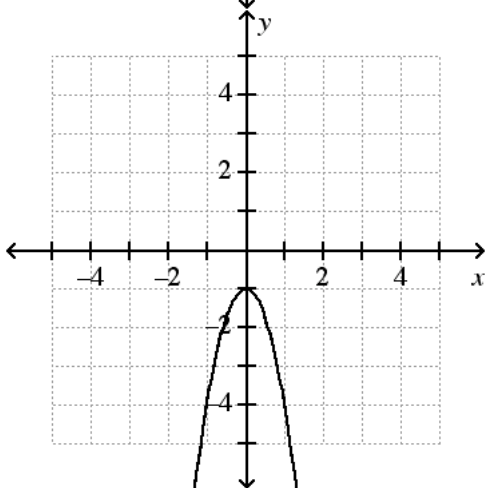
a.



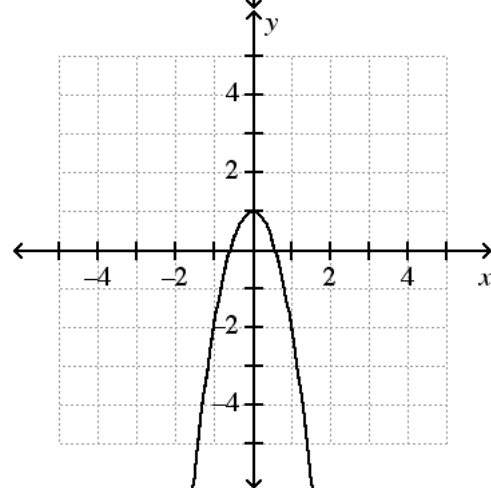
c.



b.



d.



Write a function rule for the table.

5.

x	$f(x)$
3	7
4	8
5	9
6	10

- a. $f(x) = x - 4$ b. $f(x) = 4x$ c. $f(x) = x + 4$ d. $f(x) = -4 - x$

6. A snail travels at a rate of 2.37 feet per minute.

a. Write a rule to describe the function.

b. How far will the snail travel in 6 minutes?

a. $d(t) = 6t$; 14.22 ft

b. $d(t) = 2.37t$; 14.22 ft

c. $d(t) = t + 2.37$; 8.37 ft

d. $d(t) = \frac{t}{2.37}$; 2.53 ft

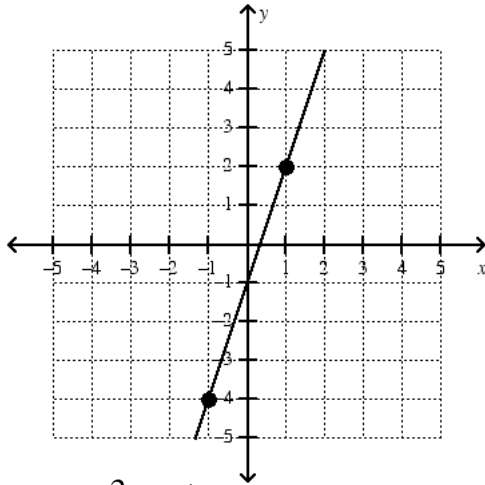
7. Crystal earns \$5.50 per hour mowing lawns.
- Write a rule to describe how the amount of money m earned is a function of the number of hours h spent mowing lawns.
 - How much does Crystal earn if she works 3 hours and 45 minutes?
 - $m(t) = 3h + 45$; \$61.50
 - $m(t) = \frac{h}{5.50}$; \$0.68
 - $m(t) = 5.50h$; \$18.98
 - $m(t) = 5.50h$; \$20.63

Write an equation of a line with the given slope and y-intercept.

8. $m = 1, b = 4$
- $y = 4x + 1$
 - $y = x - 4$
 - $y = -1x + 4$
 - $y = x + 4$

Write the slope-intercept form of the equation for the line.

9.



- $y = 3x - 1$
- $y = -3x - 1$
- $y = \frac{1}{3}x + 1$
- $y = \frac{1}{3}x - 1$

10. A parabola _____ has an axis of symmetry.

- always
- sometimes
- never

11. Angela's average for six math tests is 87. On her first four tests she had scores of 93, 87, 82, and 86. On her last test, she scored 4 points lower than she did on her fifth test. What scores did Angela receive on her fifth and sixth tests?

- fifth test = 85; sixth test = 89
- fifth test = 85; sixth test = 81
- fifth test = 90; sixth test = 86
- fifth test = 89; sixth test = 85

12. Your math teacher allows you to choose the most favorable measure of central tendency of your test scores to determine your grade for the term. On six tests you earn scores of 89, 81, 85, 82, 89, and 89. What is your grade to the nearest whole number, and which measure of central tendency should you choose?

- 87; the median
- 89; the mean
- 91; the mode
- 89; the mode

13. Make a stem-and-leaf plot for the following set of data.

1.1, 1.3, 1.8, 2.2, 2.6, 2.8, 3.1, 3.8

a.

Stem	Leaf
1	1 3
2	2 6 8
3	1 8

$1 \square 1 = 1.1$

c.

Stem	Leaf
1	0.1 0.3 0.8
2	0.2 0.6 0.8
3	0.1 0.8

$1 \square 0.1 = 1.01$

b.

Stem	Leaf
1	1 3 8
2	2 6 8
3	1 8

$1 \square 1 = 1.1$

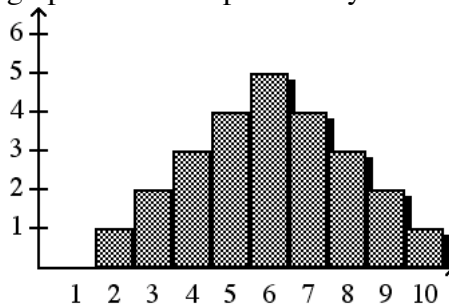
d.

Stem	Leaf
1	8 3 1
2	8 6 2
3	8 1

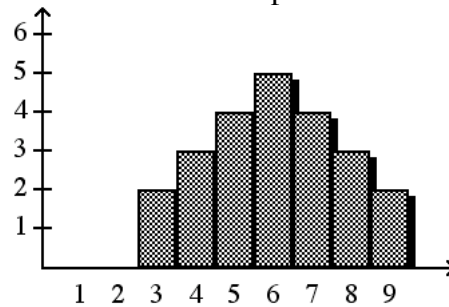
$1 \square 8 = 1.8$

14. Suppose you spin two spinners. Each has 5 equally likely outcomes, the numbers 1 through 5. Which graph shows the probability distribution for the sum of the two spinners?

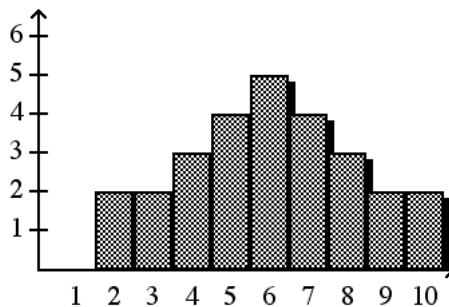
a.



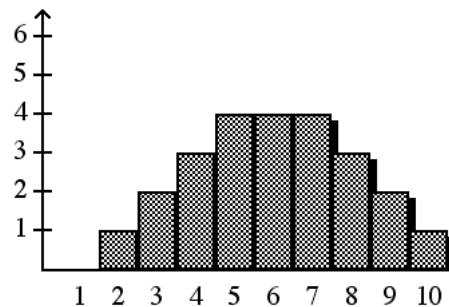
c.



b.



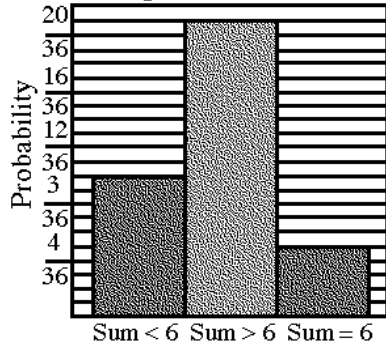
d.



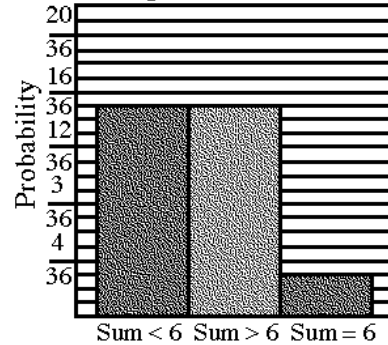
15. Suppose you roll two number cubes. Graph the probability distribution for the following sample space.

{sum of numbers < 6, sum of numbers > 6, sum of numbers = 6}

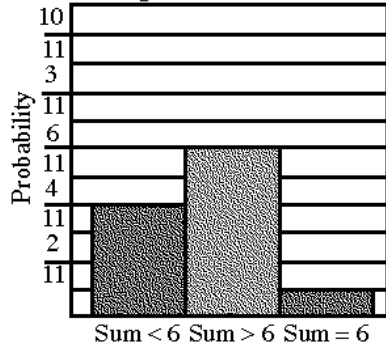
a. Rolling Two Number Cubes



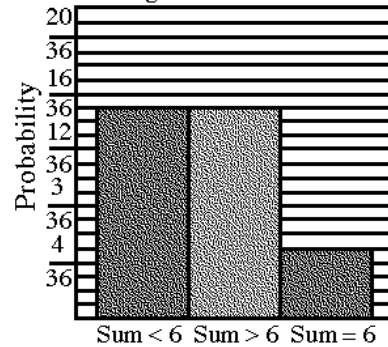
c. Rolling Two Number Cubes



b. Rolling Two Number Cubes



d. Rolling Two Number Cubes



16. In how many ways can 12 basketball players be listed in a program?

- a. 479,001,600 b. 1 c. 665,280 d. 12

17. 7C_3

- a. 35 b. 210 c. 5,040 d. 1

18. The King and Taylor families are hiking in a national park. The Kings leave the visitor center and hike 2 km east and 2 km south. The Taylors leave the visitor center and hike 3 km west and 3 km north. How far apart are the families?

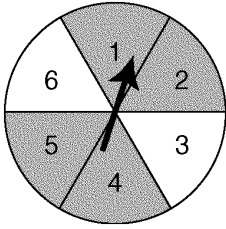
- a. 7.1 km b. 7.2 km c. 1.4 km d. 50 km

Find the midpoint of each segment with the given endpoints.

19. $C(1, -5)$ and $D(-5, 1)$

- a. $(-2, -3)$ b. $(-2, -2)$ c. $(3, -2)$ d. $(-2, -2)$

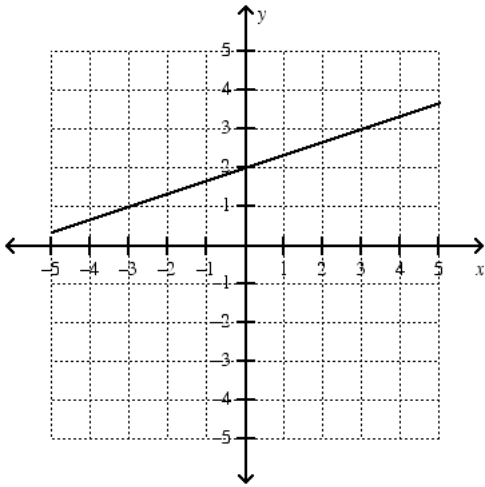
_____ 20. Refer to the spinner below. Find $P(\text{even and not shaded})$.



- a. $\frac{1}{6}$ b. $\frac{1}{3}$ c. 0 d. $\frac{5}{6}$

Find the slope of the line.

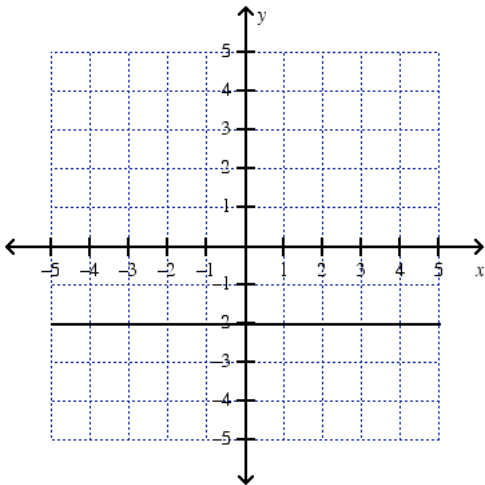
_____ 21.



- a. $-\frac{1}{3}$ b. -3 c. 3 d. $\frac{1}{3}$

State whether the slope is 0 or undefined.

_____ 22.



- a. undefined b. 0

Find the x - and y -intercept of the line.

- _____ 23. $-3x + 9y = 18$
a. x -intercept is 2; y -intercept is -6 .
b. x -intercept is -3 ; y -intercept is 9.
c. x -intercept is -6 ; y -intercept is 2.
d. x -intercept is 9; y -intercept is -3 .
- _____ 24. Write $y = \frac{2}{3}x + 7$ in standard form using integers.
a. $-2x + 3y = 21$
b. $3x - 2y = 21$
c. $-2x - 3y = 21$
d. $-2x + 3y = 7$

Write an equation in point-slope form for the line through the given point with the given slope.

- _____ 25. $(4, -6)$; $m = \frac{3}{5}$
a. $y + 6 = \frac{3}{5}x - 4$
b. $y - 6 = \frac{3}{5}(x + 4)$
c. $y + 6 = \frac{3}{5}(x - 4)$
d. $y - 4 = \frac{3}{5}(x + 6)$
- _____ 26. A line passes through $(2, -1)$ and $(8, 4)$.
a. Write an equation for the line in point-slope form.
b. Rewrite the equation in standard form using integers.
a. $y + 1 = \frac{5}{6}(x - 2)$; $-5x + 6y = -16$
b. $y - 1 = \frac{5}{6}(x - 2)$; $-5x + 6y = 16$
c. $y + 1 = \frac{5}{6}(x + 2)$; $-5x + 6y = -16$
d. $y - 2 = \frac{5}{6}(x + 1)$; $-5x + 6y = 17$

Are the graphs of the lines in the pair parallel? Explain.

- _____ 27. $y = \frac{1}{6}x + 8$
 $-2x + 12y = -11$
a. Yes, since the slope are the same and the y -intercepts are the same.
b. No, since the y -intercepts are different.
c. Yes, since the slope are the same and the y -intercepts are different.
d. No, since the slopes are different.

Tell whether the lines for each pair of equations are *parallel*, *perpendicular*, or *neither*.

- _____ 28. $7x - 4y = 4$
 $x - 4y = 3$
a. perpendicular b. parallel c. neither

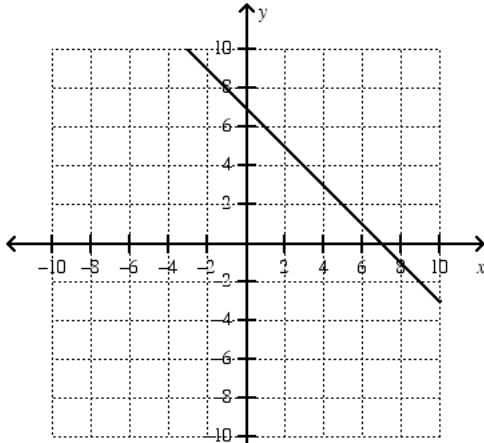
29. $y = -\frac{1}{2}x - 11$
 $16x - 8y = -8$
 a. neither

b. perpendicular

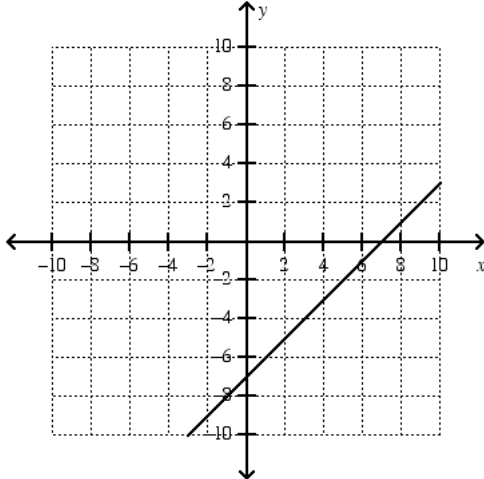
c. parallel

Graph the equation.

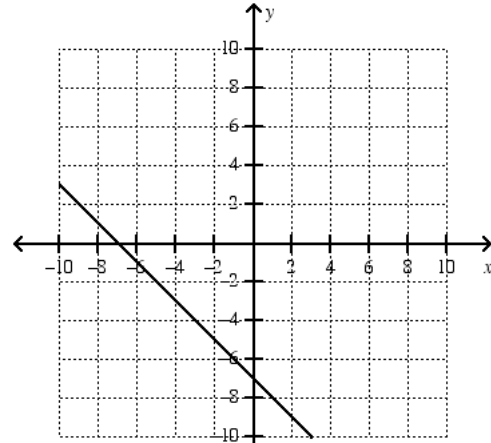
30. $y + 5 = -(x + 2)$
 a.



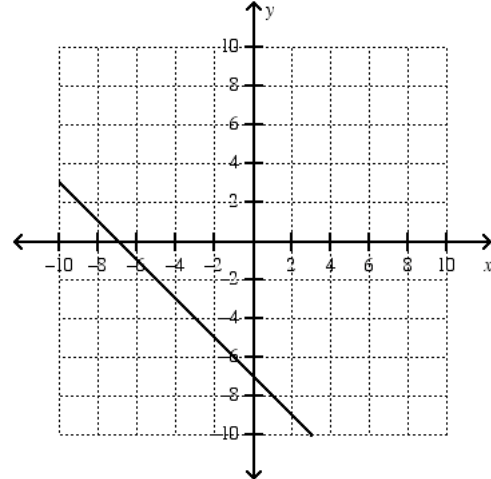
b.



c.



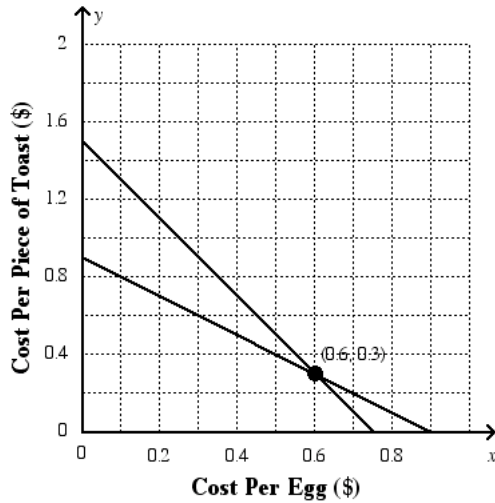
d.



31. Kendra owns a restaurant. She charges \$1.50 for 2 eggs and one piece of toast, and \$.90 for one egg and one piece of toast. Write and graph a system of equations to determine how much she charges for each egg and each piece of toast. Let x represent the number of eggs and y the number of pieces of toast.

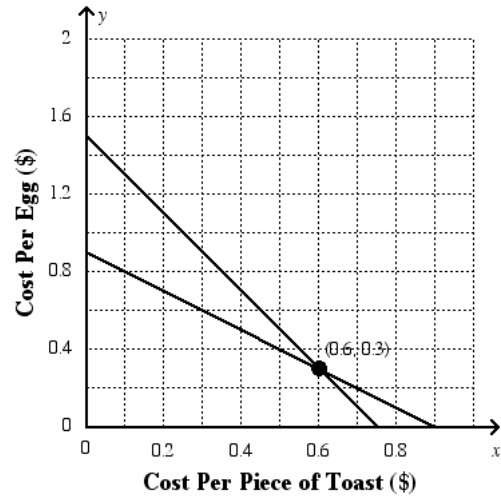
a. $y = -x + 0.90$
 $y = -2x + 1.50$

c. $2x + y = 1.50$
 $x + y = 0.90$



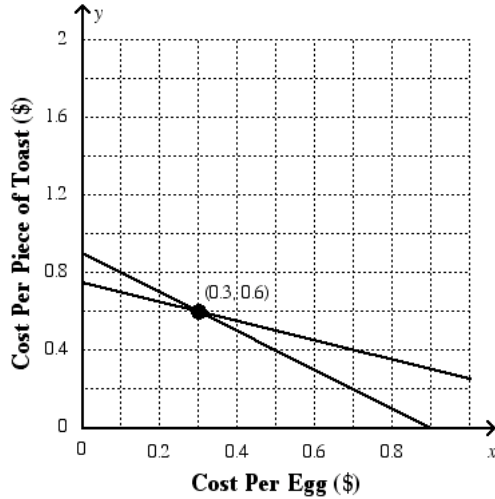
\$.60 per egg, \$.30 for toast

- b. $x + y = 0.90$
 $x + 2y = 1.50$

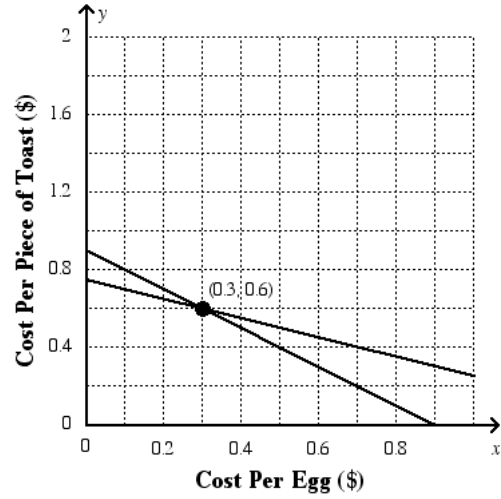


\$.30 per egg, \$.60 for toast

- d. $2x + y = 1.50$
 $x + y = 0.90$



\$.30 per egg, \$.60 for toast



\$.60 per egg, \$.30 for toast

- _____ 32. Use a graphing calculator to find the solution of the system.

$$y = \frac{5}{6}x + \frac{1}{6}$$

$$y = \frac{7}{6}x + \frac{11}{6}$$

- a. (0, 0.17) b. (5, 6) c. (-5, -4) d. (-1.5, 0)

- _____ 33. Use substitution to solve the following system of equations.

$$d + e - f = 11$$

$$e = f + d + 5$$

$$f = 2e - 12$$

a. $d = 3, e = 4, f = -4$

c. $d = 4, e = 3, f = -4$

b. $d = 3, e = 4, f = -4$

d. $d = -4, e = 4, f = 3$

Solve the system of equations using substitution.

_____ 34. $3y = -\frac{1}{2}x + 2$

$y = -x + 9$

a. (3, 6)

b. (20, -4)

c. (10, -1)

d. (-1, 8)

Solve the system using elimination.

_____ 35. $3x + y = 11$

$4x - y = 17$

a. (-1, 4)

b. (4, -1)

c. (5, -4)

d. (1, 4)

_____ 36. $3x - y = 28$

$3x + y = 14$

a. (8, -4)

b. (-7, 7)

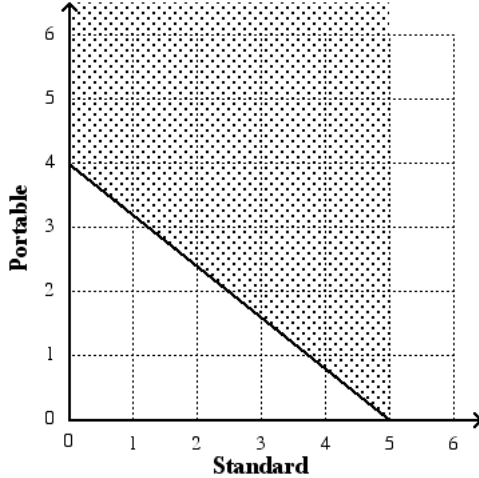
c. (7, -7)

d. (-4, 8)

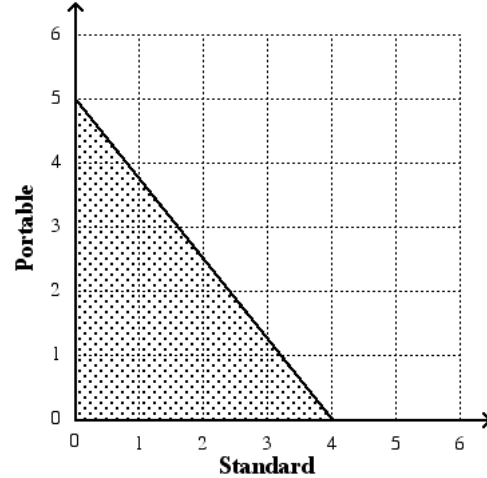
37. An electronics store makes a profit of \$72 for every standard CD player sold and \$90 for every portable CD player sold. The manager's target is to make at least \$360 a day on sales from standard and portable CD players.

- Write an inequality that represents the numbers of both kinds of CD players that can be sold to reach or exceed the sales target. Let s represent the number of standard CD players and p represent the number of portable CD players.
- Write three possible solutions to the problem.
- Graph the inequality.

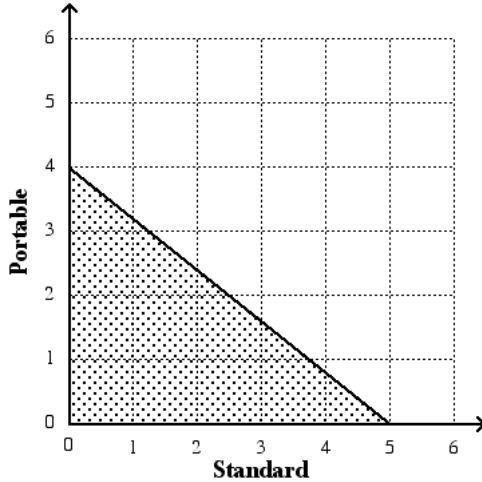
a. $72s + 90p \geq 360$



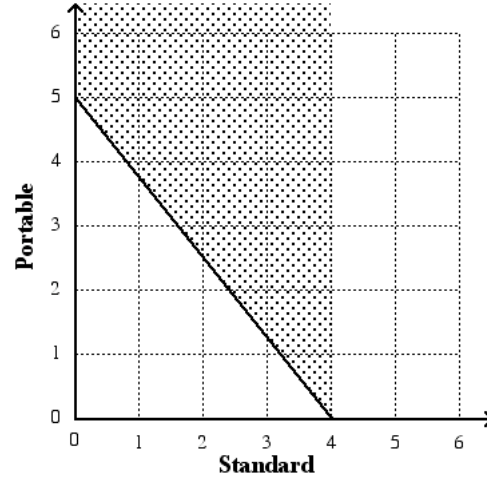
c. $90s + 72p \leq 360$



b. $72s + 90p \leq 360$



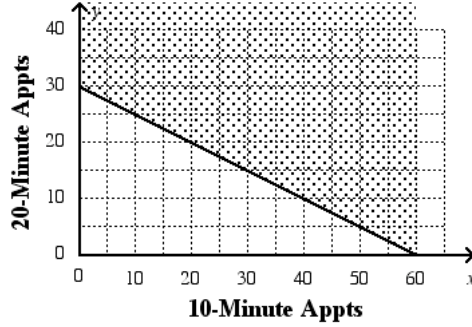
d. $90s + 72p \geq 360$



38. A doctor's office schedules 10-minute and 20-minute appointments. The doctor also makes hospital rounds for four hours each weekday.

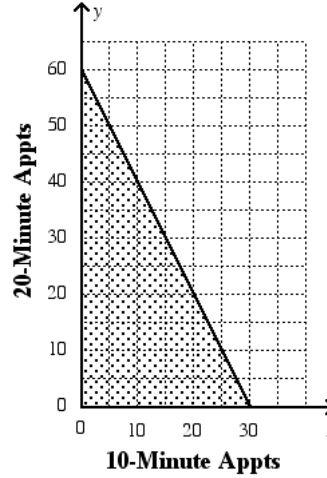
- Suppose the doctor limits these activities to, at most, 30 hours per week. Write an inequality to represent the number of each type of office visit she may have in a week. Let x represent the number of 10-minute appointments and y the number of 20-minute appointments.
- Graph the inequality.
- Is $(63, 30)$ a solution of the inequality?

a. $10x + 20y \geq 600$



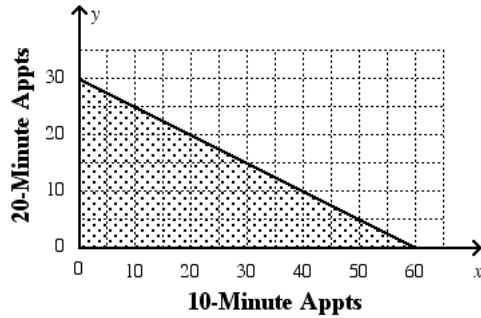
yes

c. $20x + 10y \leq 600$



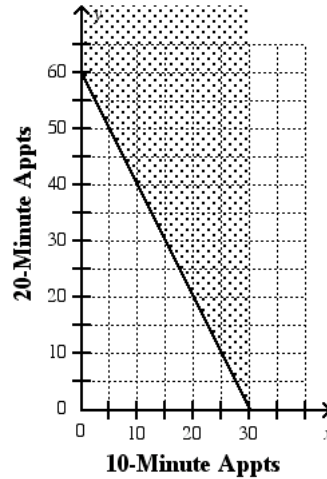
no

b. $10x + 20y \leq 600$



no

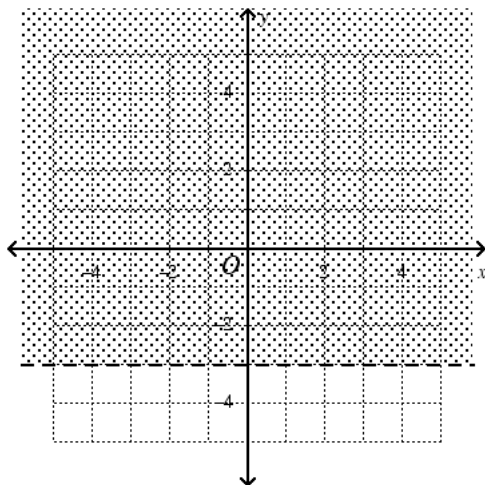
d. $20x + 10y \geq 600$



yes

Write the linear inequality shown in the graph.

39.



- a. $x > -3$ b. $x \geq -3$ c. $y > -3$ d. $y \geq -3$

40. Find a solution of the linear inequality.

$$y \geq 4x - 5$$

- a. (3, 4) b. (2, 1) c. (3, 0) d. (1, 1)

Find a solution of the system of linear inequalities.

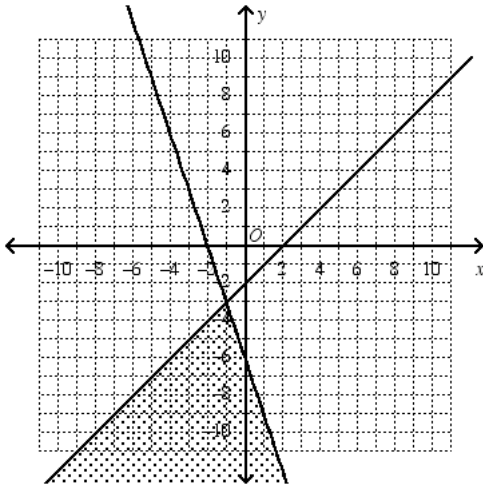
41. $1.4x + 7y \geq 21$

$$10x - 2y \geq 16$$

- a. (4, 1) b. (2, 2) c. (1, 2) d. (5, 2)

Write a system of inequalities for the graph.

42.



- a. $y \geq x - 2$
 $y \geq -3x - 6$
 b. $y \leq x + 3$
 $y \geq 2x - 6$

- c. $y \leq x - 2$
 $y \leq -3x - 6$
 d. $y \geq x + 3$
 $y \leq 2x - 6$

Simplify the expression.

43. $7x^{-8} \cdot 6x^3$

a. $\frac{42}{x^5}$

b. $\frac{1}{42x^5}$

c. $42x^{11}$

d. $13x^{-5}$

44. $6 \cdot 6^{t-2} \cdot 6^t$

a. 18^{2t-2}

b. 216^{2t-1}

c. 6^{2t-1}

d. 6^{2t-2}

45. $(-h^4)^5$

a. $-h^9$

b. h^1

c. h^{20}

d. $-h^{20}$

Simplify the difference.

46. $(-7x - 5x^4 + 5) - (-7x^4 - 5 - 9x)$

a. $2x^4 + 2x + 8$

b. $-14x^4 + 10x + 10$

c. $-14x^4 - 10x + 10$

d. $2x^4 + 2x + 10$

47. Simplify the sum.

$(4u^3 + 4u^2 + 2) + (6u^3 - 2u + 8)$

a. $10 - 2u + 4u^2 + 10u^3$

b. $-2u^3 - 2u^2 + 4u - 10$

c. $-2u^3 + 4u^2 - 2u + 10$

d. $10u^3 + 4u^2 - 2u + 10$

Simplify the product.

- _____ 48. $7a^3(5a^6 - 2b^3)$
a. $12a^9 - 9a^3b^6$ c. $35a^9 - 14a^3b^3$
b. $35a^9 - 14ab^6$ d. $12a^{18} - 9a^3b^6$
- _____ 49. The Johnsons want to cover their backyard with new grass. Their backyard is rectangular, with a length of $3x - 5$ feet and a width of $4x - 10$ feet. However, their rectangular swimming pool, along with its surrounding patio, has dimensions of $x + 8$ by $x - 2$ feet. What is the area of the region of the yard that they want to cover with new grass?
a. $6x^2 - 55x + 104 \text{ ft}^2$ c. $11x^2 - 56x + 66 \text{ ft}^2$
b. $x^2 + 6x - 16 \text{ ft}^2$ d. $12x^2 - 50x + 50 \text{ ft}^2$

Simplify the product using FOIL.

- _____ 50. $(4x + 3)(2x + 5)$
a. $8x^2 + 14x - 15$ c. $8x^2 + 26x + 15$
b. $8x^2 - 14x - 15$ d. $8x^2 - 26x + 15$
- _____ 51. Find the missing coefficient.
 $(5d - 7)(5d - 6) = 25d^2 + \quad +42$
a. 65 b. 5 c. -5 d. -65

Factor the expression.

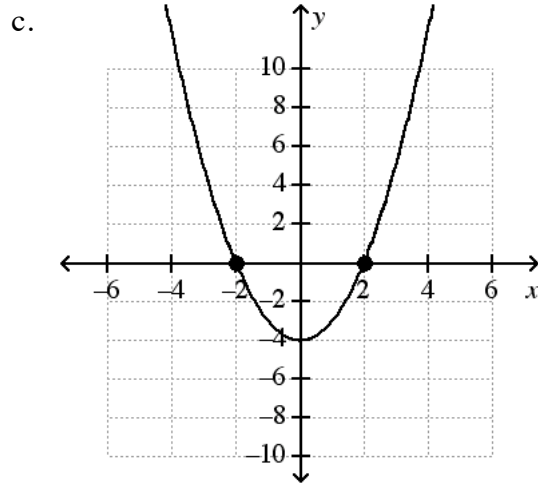
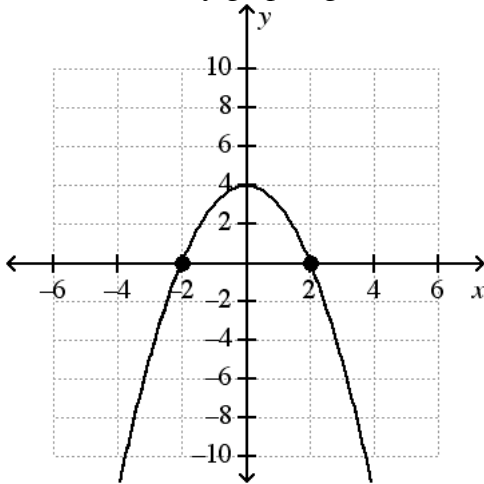
- _____ 52. $15x^2 - 16xy + 4y^2$
a. $(3x - 2y)(5x + 2y)$ c. $(3x + 2y)(5x - 2y)$
b. $(3x - 2y)(5x - 2y)$ d. $(3x + 2y)(5x + 2y)$
- _____ 53. $6x^2 + 5x + 1$
a. $(3x - 1)(2x - 1)$ c. $(3x - 1)(2x + 1)$
b. $(3x + 1)(2x - 1)$ d. $(3x + 1)(2x + 1)$
- _____ 54. $d^2 - 14d + 49$
a. $(d + 7)^2$ c. $(d - 7)(d + 7)$
b. $(d - 7)^2$ d. $(d - 49)(d - 1)$
- _____ 55. $4x^2 - 81y^2$
a. $(2x + 9)(2x - 9)$ c. $(2x + 9y)^2$
b. $(2x + 9y)(2x - 9y)$ d. $(2x - 9y)^2$

Solve the equation by factoring.

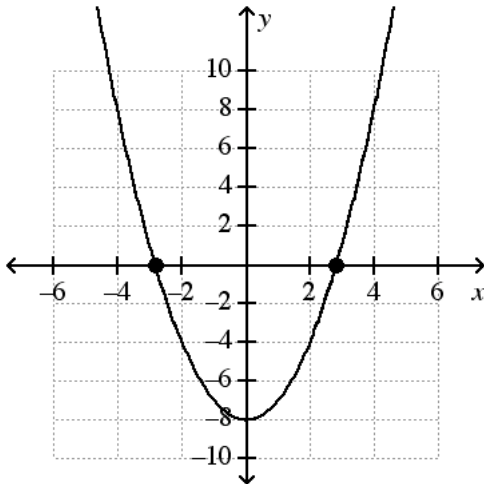
56. $c^2 - 4c = 0$
- a. $c = 0$ or $c = -4$ c. $c = 0$ or $c = 4$
 b. $c = 0$ or $c = \sqrt{4}$ d. $c = 1$ or $c = -\sqrt{4}$

57. The expression $ax^2 - bx = 0$ _____ has the solution $x = 0$.
- a. always b. sometimes c. never

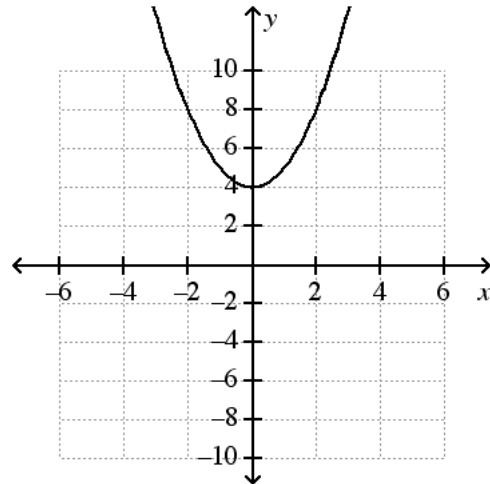
58. Solve $x^2 + 2 = 6$ by graphing the related function.
- a.



- b. There are two solutions: 2 and -2.



- d. There are two solutions: 2 and -2.



There are two solutions: $\pm\sqrt{8}$.

There are no real number solutions.

Use the quadratic formula to solve the equation. If necessary, round to the nearest hundredth.

59. $2a^2 - 46a + 252 = 0$
- a. 18, 28 b. -9, -14 c. 9, 14 d. -18, 28

- _____ 60. $5y^2 - 8y = 2$
a. 1.82, -0.22 b. 11.2, -9.6 c. 3.64, -0.44 d. 0.22, -1.82
- _____ 61. The solutions given by the quadratic formula are _____ integers.
a. sometimes b. always c. never
- _____ 62. Find the equation of the axis of symmetry and the coordinates of the vertex of the graph of the function.

$$y = 4x^2 + 5x - 1$$

a. $x = \frac{5}{8}$; vertex: $\left(\frac{5}{8}, 4\frac{5}{8}\right)$

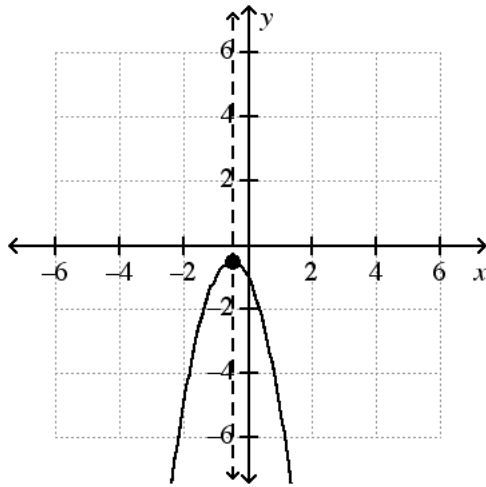
b. $x = \frac{5}{8}$; vertex: $\left(\frac{5}{8}, 3\frac{11}{16}\right)$

c. $x = -\frac{5}{8}$; vertex: $\left(-\frac{5}{8}, -5\frac{11}{16}\right)$

d. $x = -\frac{5}{8}$; vertex: $\left(-\frac{5}{8}, -2\frac{9}{16}\right)$

63. Graph $f(x) = -2x^2 - 2x - 1$. Label the axis of symmetry and vertex.

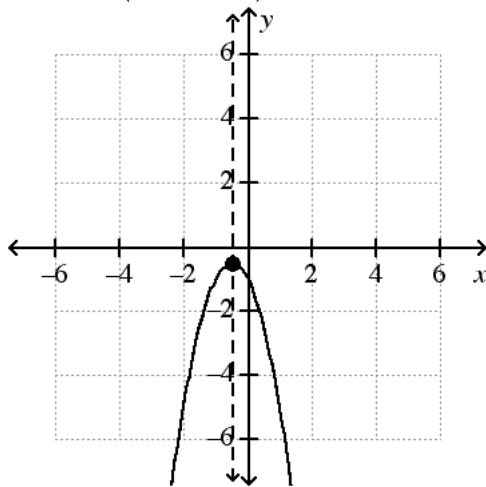
a.



Axis of symmetry: $x = -0.5$

Vertex: $(-0.5, 0.5)$

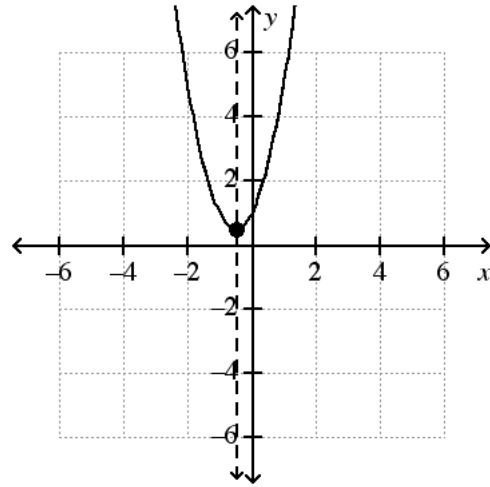
b.



Axis of symmetry: $x = -0.5$

Vertex: $(-0.5, -0.5)$

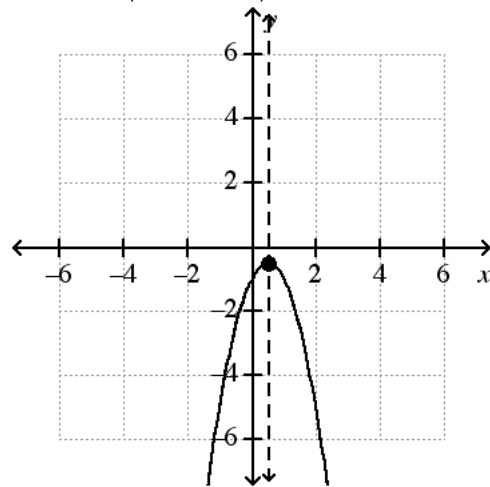
c.



Axis of symmetry: $x = -0.5$

Vertex: $(-0.5, 0.5)$

d.



Axis of symmetry: $x = 0.5$

Vertex: $(0.5, -0.5)$

64. Suppose you have 54 feet of fencing to enclose a rectangular dog pen. The function $A = 27x - x^2$, where $x =$ width, gives you the area of the dog pen in square feet. What width gives you the maximum area? What is the maximum area? Round to the nearest tenth as necessary.

a. width = 27 ft; area = 182.3 ft^2

b. width = 27 ft; area = 391.5 ft^2

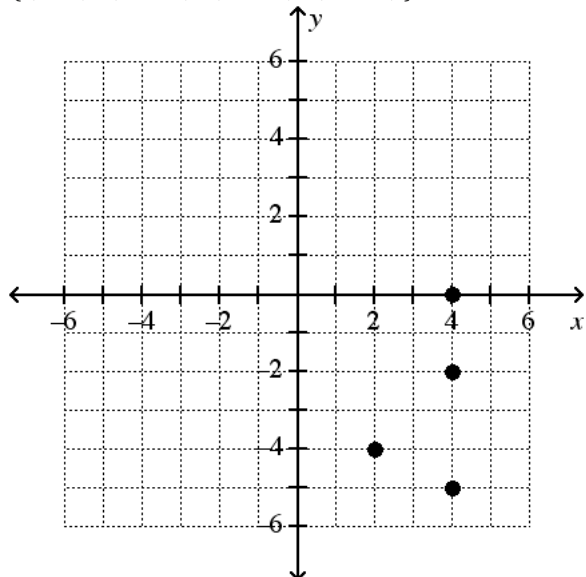
c. width = 13.5 ft; area = 546.8 ft^2

d. width = 13.5 ft; area = 182.3 ft^2

Short Answer

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

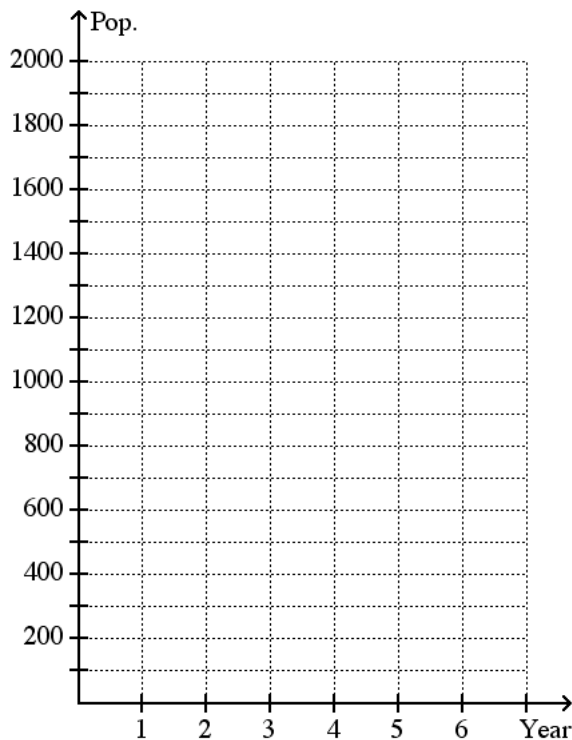
65. $\{(4, 0), (4, -5), (4, -2), (2, -4)\}$



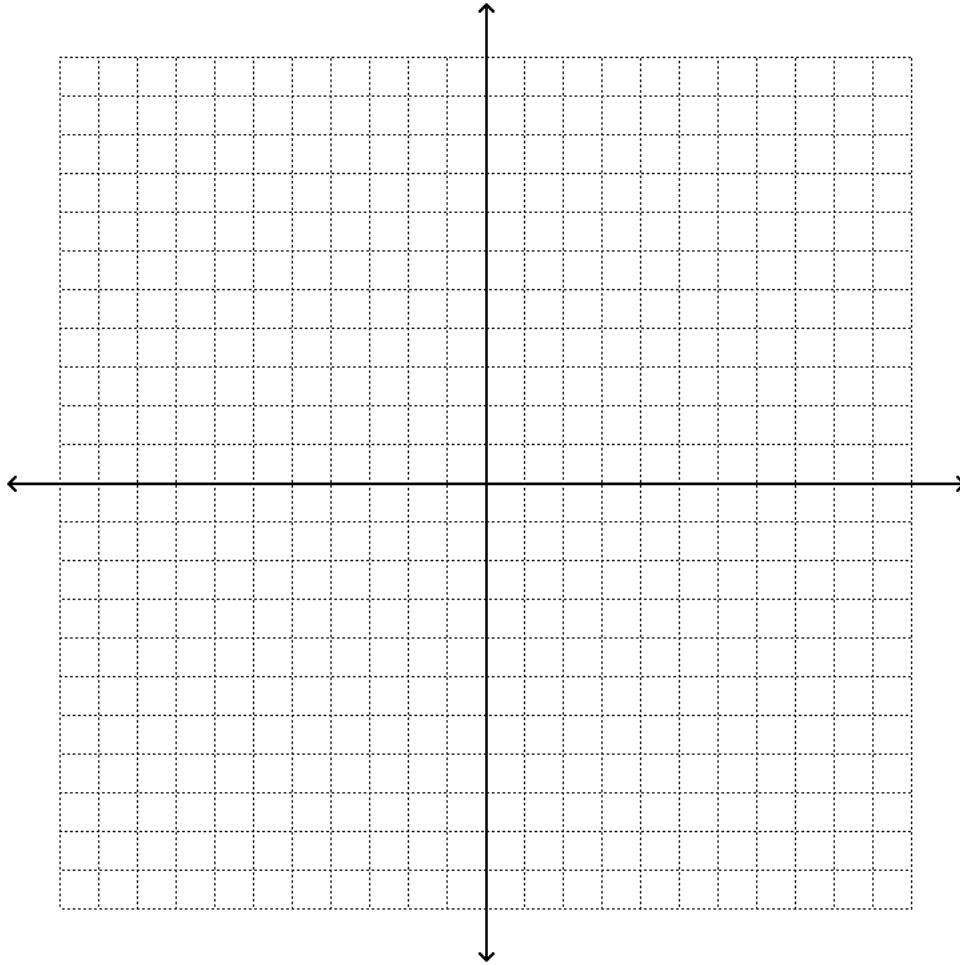
66. Find the range of $f(x) = -x + 4$ for the domain $\{-3, -2, -1, 1\}$.

67. The population of an endangered animal species has been increasing. Make a scatter plot using the data given in the table.

Year	Population
1	230
2	670
3	620
4	840
5	1400
6	1580

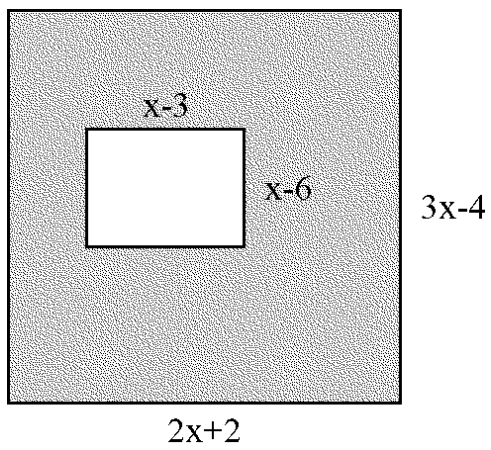


-
68. You have a gift certificate to a book store worth \$90. Each paperback books is \$9 and each hardcover books is \$12. You must spend at least \$25 in order to use the gift certificate. Write and graph a system of inequalities to model the number of each kind of books you can buy. Let x = the number of paperback books and y = the number of hardback books.



Essay

69. Find the area of the shaded region. Show all your work.



Sample Test to Determine Placement in Honors Algebra I or Honors Geometry

Answer Section

MULTIPLE CHOICE

1. ANS: D DIF: L1 REF: 5-2 Relations and Functions
OBJ: 5-2.1 Identifying Relations and Functions
STO: KS 2.3.1, KS 2.3.2, KS 2.3.3, KS 2.3.8 TOP: 5-2 Example 3
KEY: function, mapping diagram
MSC: NAEP A1g, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.DI, IT.LV15.PS, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.14, TV.LV19.16, TV.LVALG.56
2. ANS: A DIF: L1 REF: 5-2 Relations and Functions
OBJ: 5-2.2 Evaluating Functions STO: KS 2.3.1, KS 2.3.2, KS 2.3.3, KS 2.3.8
TOP: 5-2 Example 4 KEY: function
MSC: NAEP A1g, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.DI, IT.LV15.PS, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.14, TV.LV19.16, TV.LVALG.56
3. ANS: D DIF: L1 REF: 5-3 Function Rules, Tables, and Graphs
OBJ: 5-3.1 Modeling Functions STO: KS 2.3.1, KS 2.3.4, KS 2.3.5, KS 2.3.8
TOP: 5-3 Example 1 KEY: graphing, function
MSC: NAEP A1e, NAEP A2a, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.DI, S9.TSK1.DSP, S10.TSK1.DSP, TV.LV19.16, TV.LV19.18, TV.LVALG.55, TV.LVALG.56
4. ANS: B DIF: L2 REF: 5-3 Function Rules, Tables, and Graphs
OBJ: 5-3.1 Modeling Functions STO: KS 2.3.1, KS 2.3.4, KS 2.3.5, KS 2.3.8
TOP: 5-3 Example 3 KEY: graphing, function, quadratic function
MSC: NAEP A1e, NAEP A2a, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.DI, S9.TSK1.DSP, S10.TSK1.DSP, TV.LV19.16, TV.LV19.18, TV.LVALG.55, TV.LVALG.56
5. ANS: C DIF: L1 REF: 5-4 Writing a Function Rule
OBJ: 5-4.1 Writing Function Rules STO: KS 2.3.2, KS 2.3.4
TOP: 5-4 Example 1 KEY: rule, function
MSC: NAEP A1e, NAEP A3a, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.DI, TV.LV19.16, TV.LV19.17, TV.LV19.18, TV.LVALG.56
6. ANS: B DIF: L1 REF: 5-4 Writing a Function Rule
OBJ: 5-4.1 Writing Function Rules STO: KS 2.3.2, KS 2.3.4
TOP: 5-4 Example 3 KEY: function, multi-part question
MSC: NAEP A1e, NAEP A3a, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.DI, TV.LV19.16, TV.LV19.17, TV.LV19.18, TV.LVALG.56
7. ANS: D DIF: L2 REF: 5-4 Writing a Function Rule
OBJ: 5-4.1 Writing Function Rules STO: KS 2.3.2, KS 2.3.4
TOP: 5-4 Example 3
KEY: function, multi-part question, word problem, problem solving
MSC: NAEP A1e, NAEP A3a, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.DI, TV.LV19.16, TV.LV19.17, TV.LV19.18, TV.LVALG.56
8. ANS: D DIF: L1 REF: 6-2 Slope-Intercept Form
OBJ: 6-2.1 Writing Linear Equations STO: KS 2.2.2, KS 2.3.10, KS 3.4.3, KS 3.4.6

- TV.LV19.15, TV.LV19.16, TV.LVALG.54, TV.LVALG.55
24. ANS: A DIF: L1 REF: 6-3 Standard Form
OBJ: 6-3.2 Writing Equations in Standard Form
STO: KS 2.3.5, KS 2.3.10, KS 3.4.6 TOP: 6-3 Example 4
KEY: standard form of a linear equation,transforming equations
MSC: NAEP A1h, CAT5.LV19.54, IT.LV15.CP, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.15, TV.LV19.16, TV.LVALG.54, TV.LVALG.55
25. ANS: C DIF: L1
REF: 6-4 Point-Slope Form and Writing Linear Equations
OBJ: 6-4.1 Using Point-Slope Form STO: KS 3.4.3, KS 3.4.6
TOP: 6-4 Example 2 KEY: slope-intercept form,linear equation
MSC: NAEP A1h, NAEP A1i, NAEP A2a, NAEP A2b, NAEP A3a, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.CP, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.15, TV.LV19.16, TV.LV19.17, TV.LVALG.54, TV.LVALG.55
26. ANS: A DIF: L2
REF: 6-4 Point-Slope Form and Writing Linear Equations
OBJ: 6-4.1 Using Point-Slope Form STO: KS 3.4.3, KS 3.4.6
TOP: 6-4 Example 3
KEY: point-slope form,transforming equations,standard form of a linear equation,multi-part question
MSC: NAEP A1h, NAEP A1i, NAEP A2a, NAEP A2b, NAEP A3a, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.CP, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.15, TV.LV19.16, TV.LV19.17, TV.LVALG.54, TV.LVALG.55
27. ANS: C DIF: L1 REF: 6-5 Parallel and Perpendicular Lines
OBJ: 6-5.1 Parallel Lines STO: KS 2.3.14, KS 3.4.4
TOP: 6-5 Example 1 KEY: parallel lines,slope
MSC: NAEP G3g, NAEP A2e, CAT5.LV19.52, CAT5.LV19.54, IT.LV15.CP, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.14, TV.LV19.16, TV.LV19.18, TV.LVALG.54, TV.LVALG.56
28. ANS: C DIF: L2 REF: 6-5 Parallel and Perpendicular Lines
OBJ: 6-5.2 Perpendicular Lines STO: KS 2.3.14, KS 3.4.4
TOP: 6-5 Example 3 KEY: perpendicular lines,parallel lines
MSC: NAEP G3g, NAEP A2e, CAT5.LV19.52, CAT5.LV19.54, IT.LV15.CP, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.14, TV.LV19.16, TV.LV19.18, TV.LVALG.54, TV.LVALG.56
29. ANS: B DIF: L2 REF: 6-5 Parallel and Perpendicular Lines
OBJ: 6-5.2 Perpendicular Lines STO: KS 2.3.14, KS 3.4.4
TOP: 6-5 Example 3 KEY: perpendicular lines,parallel lines
MSC: NAEP G3g, NAEP A2e, CAT5.LV19.52, CAT5.LV19.54, IT.LV15.CP, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.14, TV.LV19.16, TV.LV19.18, TV.LVALG.54, TV.LVALG.56
30. ANS: D DIF: L1
REF: 6-4 Point-Slope Form and Writing Linear Equations
OBJ: 6-4.1 Using Point-Slope Form STO: KS 3.4.3, KS 3.4.6
TOP: 6-4 Example 1 KEY: point-slope form,graphing,linear equation
MSC: NAEP A1h, NAEP A1i, NAEP A2a, NAEP A2b, NAEP A3a, CAT5.LV19.53,

CAT5.LV19.54, IT.LV15.CP, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.15, TV.LV19.16, TV.LV19.17, TV.LVALG.54, TV.LVALG.55

31. ANS: A DIF: L2 REF: 7-1 Solving Systems By Graphing
OBJ: 7-1.1 Solving Systems By Graphing
STO: KS 2.1.3, KS 2.2.3, KS 3.4.8
KEY: word problem, problem solving, system of linear equations, graphing a system of linear equations
MSC: NAEP A4d, NAEP A4g, CAT5.LV19.50, CAT5.LV19.54, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.17, TV.LV19.18, TV.LVALG.55
32. ANS: C DIF: L2 REF: 7-1 Solving Systems By Graphing
OBJ: 7-1.1 Solving Systems By Graphing
STO: KS 2.1.3, KS 2.2.3, KS 3.4.8 TOP: 7-1 Example 2
KEY: system of linear equations, graphing a system of linear equations, graphing calculator
MSC: NAEP A4d, NAEP A4g, CAT5.LV19.50, CAT5.LV19.54, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.17, TV.LV19.18, TV.LVALG.55
33. ANS: B DIF: L3 REF: 7-2 Solving Systems Using Substitution
OBJ: 7-2.1 Using Substitution STO: KS 1.2.2, KS 2.2.3, KS 3.4.8
KEY: system of linear equations, substitution method
MSC: NAEP A4g, CAT5.LV19.54, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.52, TV.LVALG.54
34. ANS: C DIF: L2 REF: 7-2 Solving Systems Using Substitution
OBJ: 7-2.1 Using Substitution STO: KS 1.2.2, KS 2.2.3, KS 3.4.8
TOP: 7-2 Example 2 KEY: system of linear equations, substitution method
MSC: NAEP A4g, CAT5.LV19.54, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.52, TV.LVALG.54
35. ANS: B DIF: L1 REF: 7-3 Solving Systems Using Elimination
OBJ: 7-3.1 Adding or Subtracting to Solve Systems
STO: KS 1.2.2, KS 2.2.1, KS 2.2.3, KS 3.4.8 TOP: 7-3 Example 1
KEY: system of linear equations, elimination method, adding or subtracting equations
MSC: NAEP A4g, CAT5.LV19.54, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.49, TV.LV19.52, TV.LVALG.54
36. ANS: C DIF: L1 REF: 7-3 Solving Systems Using Elimination
OBJ: 7-3.1 Adding or Subtracting to Solve Systems
STO: KS 1.2.2, KS 2.2.1, KS 2.2.3, KS 3.4.8 TOP: 7-3 Example 1
KEY: system of linear equations, elimination method, adding or subtracting equations
MSC: NAEP A4g, CAT5.LV19.54, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.49, TV.LV19.52, TV.LVALG.54
37. ANS: A DIF: L1 REF: 7-5 Linear Inequalities
OBJ: 7-5.2 Modeling Real-World Situations STO: KS 2.2.1, KS 2.2.3
TOP: 7-5 Example 3
KEY: word problem, problem solving, linear inequality, graphing
MSC: NAEP A3a, CAT5.LV19.50, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LVALG.54
38. ANS: B DIF: L1 REF: 7-5 Linear Inequalities
OBJ: 7-5.2 Modeling Real-World Situations STO: KS 2.2.1, KS 2.2.3
TOP: 7-5 Example 3

KEY: word problem,problem solving,linear inequality,graphing

MSC: NAEP A3a, CAT5.LV19.50, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LVALG.54

39. ANS: C DIF: L1 REF: 7-5 Linear Inequalities
OBJ: 7-5.1 Graphing Linear Inequalities STO: KS 2.2.1, KS 2.2.3
TOP: 7-5 Example 1 KEY: linear inequality, graphing
MSC: NAEP A3a, CAT5.LV19.50, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LVALG.54
40. ANS: D DIF: L1 REF: 7-5 Linear Inequalities
OBJ: 7-5.1 Graphing Linear Inequalities STO: KS 2.2.1, KS 2.2.3
TOP: 7-5 Example 1 KEY: linear inequality, graphing
MSC: NAEP A3a, CAT5.LV19.50, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LVALG.54
41. ANS: D DIF: L1 REF: 7-6 Systems of Linear Inequalities
OBJ: 7-6.1 Solving Systems of Linear Inequalities by Graphing STO: KS 2.4.2, KS 3.4.8
TOP: 7-6 Example 1
KEY: linear inequality,graphing,system of linear inequalities,graphing a system of linear inequalities
MSC: NAEP A4g, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.52, TV.LVALG.54
42. ANS: C DIF: L1 REF: 7-6 Systems of Linear Inequalities
OBJ: 7-6.1 Solving Systems of Linear Inequalities by Graphing STO: KS 2.4.2, KS 3.4.8
TOP: 7-6 Example 2
KEY: linear inequality, graphing,system of linear inequalities,graphing a system of linear inequalities
MSC: NAEP A4g, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.52, TV.LVALG.54
43. ANS: A DIF: L1 REF: 8-3 Multiplication Properties of Exponents
OBJ: 8-3.1 Multiplying Powers STO: KS 1.1.2, KS 1.4.2
TOP: 8-1 Example 2
KEY: exponential expression,simplifying an exponential expression,multiplying powers with the same base
MSC: CAT5.LV19.50, CAT5.LV19.51, CAT5.LV19.52, IT.LV15.CP, IT.LV15.DP, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.10, TV.LV19.11, TV.LV19.52, TV.LVALG.53
44. ANS: C DIF: L3 REF: 8-3 Multiplication Properties of Exponents
OBJ: 8-3.1 Multiplying Powers STO: KS 1.1.2, KS 1.4.2
TOP: 8-3 Example 2
KEY: exponential expression,multiplying powers with the same base,simplifying an exponential expression
MSC: CAT5.LV19.50, CAT5.LV19.51, CAT5.LV19.52, IT.LV15.CP, IT.LV15.DP, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.10, TV.LV19.11, TV.LV19.52, TV.LVALG.53
45. ANS: D DIF: L1 REF: 8-4 More Multiplication Properties of Exponents
OBJ: 8-4.1 Raising a Power to a Power STO: KS 1.1.2, KS 1.4.2
TOP: 8-4 Example 1
KEY: raising a power to a power,exponential expression,simplifying an exponential expression
MSC: CAT5.LV19.50, CAT5.LV19.51, CAT5.LV19.52, IT.LV15.CP, IT.LV15.DP, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.10, TV.LV19.11, TV.LV19.52, TV.LVALG.53

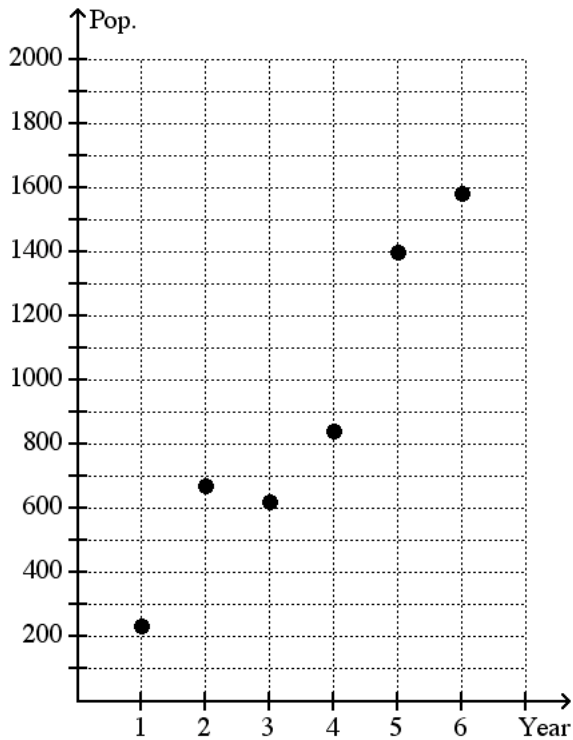
46. ANS: D DIF: L1 REF: 9-1 Adding and Subtracting Polynomials
 OBJ: 9-1.2 Adding and Subtracting Polynomials STO: KS 1.1.1, KS 1.4.2
 TOP: 9-1 Example 4
 KEY: monomial,degree of a monomial,polynomial,degree of a polynomial,subtracting polynomials,standard form of a polynomial,trinomial
 MSC: NAEP A3b, CAT5.LV19.47, CAT5.LV19.54, IT.LV15.I, IT.LV15.AM, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.16, TV.LV19.49, TV.LV19.52, TV.LVALG.53
47. ANS: D DIF: L2 REF: 9-1 Adding and Subtracting Polynomials
 OBJ: 9-1.2 Adding and Subtracting Polynomials STO: KS 1.1.1, KS 1.4.2
 TOP: 9-1 Example 3
 KEY: monomial,degree of a monomial,polynomial,adding polynomials,degree of a polynomial,standard form of a polynomial,trinomial
 MSC: NAEP A3b, CAT5.LV19.47, CAT5.LV19.54, IT.LV15.I, IT.LV15.AM, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.16, TV.LV19.49, TV.LV19.52, TV.LVALG.53
48. ANS: C DIF: L1 REF: 9-2 Multiplying and Factoring
 OBJ: 9-2.1 Distributing a Monomial STO: KS 1.4.2 TOP: 9-2 Example 1
 KEY: polynomial,multiplying a monomial and a trinomial
 MSC: NAEP N5b, NAEP A3b, NAEP A3c, CAT5.LV19.47, CAT5.LV19.54, IT.LV15.I, IT.LV15.AM, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.16, TV.LV19.49, TV.LV19.52, TV.LVALG.53
49. ANS: C DIF: L2 REF: 9-3 Multiplying Binomials
 OBJ: 9-3.1 Multiplying Two Binomials STO: KS 1.4.2, KS 2.4.1
 TOP: 9-3 Example 3
 KEY: word problem,problem solving,polynomial,Distributive Property
 MSC: NAEP M1h, NAEP A3c, CAT5.LV19.47, CAT5.LV19.54, IT.LV15.I, IT.LV15.AM, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.16, TV.LV19.49, TV.LV19.52, TV.LVALG.53
50. ANS: C DIF: L2 REF: 9-3 Multiplying Binomials
 OBJ: 9-3.1 Multiplying Two Binomials STO: KS 1.4.2, KS 2.4.1
 TOP: 9-3 Example 2 KEY: polynomial,FOIL
 MSC: NAEP M1h, NAEP A3c, CAT5.LV19.47, CAT5.LV19.54, IT.LV15.I, IT.LV15.AM, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.16, TV.LV19.49, TV.LV19.52, TV.LVALG.53
51. ANS: D DIF: L1 REF: 9-3 Multiplying Binomials
 OBJ: 9-3.1 Multiplying Two Binomials STO: KS 1.4.2, KS 2.4.1
 TOP: 9-3 Example 2 KEY: polynomial,FOIL
 MSC: NAEP M1h, NAEP A3c, CAT5.LV19.47, CAT5.LV19.54, IT.LV15.I, IT.LV15.AM, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.16, TV.LV19.49, TV.LV19.52, TV.LVALG.53
52. ANS: B DIF: L2
 REF: 9-6 Factoring Trinomials of the Type $ax^2 + bx + c$
 OBJ: 9-6.1 Factoring $ax^2 + bx + c$ STO: KS 1.4.2 TOP: 9-5 Example 4
 KEY: polynomial,factoring trinomials
 MSC: NAEP A3c, CAT5.LV19.47, CAT5.LV19.52, CAT5.LV19.54, IT.LV15.I, IT.LV15.AM, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.16, TV.LV19.49, TV.LV19.52, TV.LVALG.53
53. ANS: D DIF: L1
 REF: 9-6 Factoring Trinomials of the Type $ax^2 + bx + c$
 OBJ: 9-6.1 Factoring $ax^2 + bx + c$ STO: KS 1.4.2 TOP: 9-6 Example 1
 KEY: polynomial,factoring trinomials

- MSC: NAEP A3c, CAT5.LV19.47, CAT5.LV19.52, CAT5.LV19.54, IT.LV15.I, IT.LV15.AM, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.16, TV.LV19.49, TV.LV19.52, TV.LVALG.53
54. ANS: B DIF: L1 REF: 9-7 Factoring Special Cases
OBJ: 9-7.1 Factoring Perfect-Square Trinomials STO: KS 1.4.2
TOP: 9-7 Example 1
KEY: polynomial, factoring trinomials, perfect-square trinomial
MSC: CAT5.LV19.47, CAT5.LV19.52, CAT5.LV19.54, IT.LV15.I, IT.LV15.AM, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.16, TV.LV19.49, TV.LV19.52, TV.LVALG.53
55. ANS: B DIF: L2 REF: 9-7 Factoring Special Cases
OBJ: 9-7.2 Factoring the Difference of Squares STO: KS 1.4.2
TOP: 9-7 Example 4
KEY: polynomial, factoring trinomials, difference of squares
MSC: CAT5.LV19.47, CAT5.LV19.52, CAT5.LV19.54, IT.LV15.I, IT.LV15.AM, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.16, TV.LV19.49, TV.LV19.52, TV.LVALG.53
56. ANS: C DIF: L1 REF: 10-5 Factoring to Solve Quadratic Equations
OBJ: 10-5.1 Solving Quadratic Equations
STO: KS 1.2.2, KS 2.2.2, KS 2.2.3 TOP: 10-5 Example 2
KEY: factoring, solving quadratic equations
MSC: NAEP A4a, NAEP A4c, CAT5.LV19.50, CAT5.LV19.55, IT.LV15.CP, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.52, TV.LVALG.57
57. ANS: A DIF: L2 REF: 10-5 Factoring to Solve Quadratic Equations
OBJ: 10-5.1 Solving Quadratic Equations
STO: KS 1.2.2, KS 2.2.2, KS 2.2.3 KEY: solving quadratic equations, factoring, reasoning
MSC: NAEP A4a, NAEP A4c, CAT5.LV19.50, CAT5.LV19.55, IT.LV15.CP, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.52, TV.LVALG.57
58. ANS: C DIF: L1 REF: 10-4 Solving Quadratic Equations
OBJ: 10-4.1 Solving Quadratic Equations by Graphing
STO: KS 2.2.2, KS 3.2.4, KS 3.4.7 TOP: 10-4 Example 1
KEY: solving quadratic equations, graphing, quadratic function
MSC: NAEP A4a, NAEP A4c, CAT5.LV19.50, CAT5.LV19.56, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.18, TV.LV19.52, TV.LVALG.57
59. ANS: C DIF: L1 REF: 10-7 Using the Quadratic Formula
OBJ: 10-7.1 Using the Quadratic Formula STO: KS 1.4.2, KS 2.2.2
TOP: 10-7 Example 1 KEY: quadratic formula, solving quadratic equations
MSC: NAEP A4a, CAT5.LV19.50, IT.LV15.CP, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.11, TV.LV19.17, TV.LV19.52, TV.LVALG.57
60. ANS: A DIF: L1 REF: 10-7 Using the Quadratic Formula
OBJ: 10-7.1 Using the Quadratic Formula STO: KS 1.4.2, KS 2.2.2
TOP: 10-7 Example 2 KEY: quadratic formula, solving quadratic equations
MSC: NAEP A4a, CAT5.LV19.50, IT.LV15.CP, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.11, TV.LV19.17, TV.LV19.52, TV.LVALG.57
61. ANS: A DIF: L2 REF: 10-7 Using the Quadratic Formula
OBJ: 10-7.1 Using the Quadratic Formula STO: KS 1.4.2, KS 2.2.2
KEY: solving quadratic equations, quadratic formula, reasoning
MSC: NAEP A4a, CAT5.LV19.50, IT.LV15.CP, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA,

- TV.LV19.11, TV.LV19.17, TV.LV19.52, TV.LVALG.57
62. ANS: D DIF: L1 REF: 10-2 Quadratic Functions
 OBJ: 10-2.1 Graphing $y = ax^2 + bx + c$
 STO: KS 2.3.5, KS 2.3.10, KS 2.3.11, KS 3.1.2, KS 3.4.7 TOP: 10-2 Example 1
 KEY: quadratic function,axis of symmetry,vertex
 MSC: NAEP A1e, CAT5.LV19.54, CAT5.LV19.55, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.18, TV.LV19.52, TV.LVALG.57
63. ANS: B DIF: L1 REF: 10-2 Quadratic Functions
 OBJ: 10-2.1 Graphing $y = ax^2 + bx + c$
 STO: KS 2.3.5, KS 2.3.10, KS 2.3.11, KS 3.1.2, KS 3.4.7 TOP: 10-2 Example 1
 KEY: graphing, quadratic function,axis of symmetry,vertex
 MSC: NAEP A1e, CAT5.LV19.54, CAT5.LV19.55, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.18, TV.LV19.52, TV.LVALG.57
64. ANS: D DIF: L2 REF: 10-2 Quadratic Functions
 OBJ: 10-2.1 Graphing $y = ax^2 + bx + c$
 STO: KS 2.3.5, KS 2.3.10, KS 2.3.11, KS 3.1.2, KS 3.4.7 TOP: 10-2 Example 2
 KEY: quadratic function,maximum,problem solving,word problem,multi-part question
 MSC: NAEP A1e, CAT5.LV19.54, CAT5.LV19.55, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.18, TV.LV19.52, TV.LVALG.57

SHORT ANSWER

65. ANS:
 The relation is not a function.
- DIF: L1 REF: 5-2 Relations and Functions
 OBJ: 5-2.1 Identifying Relations and Functions
 STO: KS 2.3.1, KS 2.3.2, KS 2.3.3, KS 2.3.8 TOP: 5-2 Example 2
 KEY: function,vertical-line test
 MSC: NAEP A1g, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.DI, IT.LV15.PS, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.14, TV.LV19.16, TV.LVALG.56
66. ANS:
 {7, 6, 5, 3}
- DIF: L1 REF: 5-2 Relations and Functions
 OBJ: 5-2.2 Evaluating Functions STO: KS 2.3.1, KS 2.3.2, KS 2.3.3, KS 2.3.8
 TOP: 5-2 Example 5 KEY: function,domain,range
 MSC: NAEP A1g, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.DI, IT.LV15.PS, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.14, TV.LV19.16, TV.LVALG.56
67. ANS:



DIF: L1 REF: 1-9 Graphing Data on the Coordinate Plane

OBJ: 1-9.2 Analyzing Data Using Scatter Plots

STO: KS 2.4.2, KS 4.2.1, KS 4.2.5 TOP: 1-9 Example 4

KEY: graphing, ordered pair, scatter plot

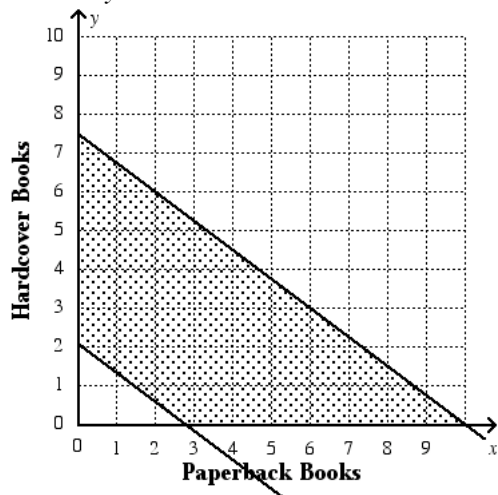
MSC: NAEP D1a, NAEP D1b, NAEP D2h, NAEP A2c, CAT5.LV19.53, IT.LV15.DI,

S9.TSK1.GM, S10.TSK1.GM, TV.LV19.10, TV.LV19.15, TV.LVALG.55

68. ANS:

$$9x + 12y \geq 25$$

$$9x + 12y \leq 90$$



DIF: L1

REF: 7-6 Systems of Linear Inequalities

OBJ: 7-6.2 Writing and Using Systems of Linear Inequalities STO: KS 2.4.2, KS 3.4.8
TOP: 7-6 Example 4
KEY: word problem,problem solving,linear inequality,graphing,system of linear inequalities,graphing a system of linear inequalities
MSC: NAEP A4g, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.52, TV.LVALG.54

ESSAY

69. ANS:

$$\begin{aligned} [4] \quad (2x + 2)(3x - 4) - (x - 3)(x - 6) &= (6x^2 - 8x + 6x - 8) - (x^2 - 6x - 3x + 18) \\ &= (6x^2 - 2x - 8) - (x^2 - 9x + 18) \\ &= 5x^2 + 7x - 26 \end{aligned}$$

[3] one minor computational error

[2] error in formula with correct computation

[1] correct answer without work shown

DIF: L2 REF: 9-3 Multiplying Binomials

OBJ: 9-3.1 Multiplying Two Binomials STO: KS 1.4.2, KS 2.4.1

TOP: 9-3 Example 3

KEY: rubric-based question,extended response,polynomial,Distributive Property

MSC: NAEP M1h, NAEP A3c, CAT5.LV19.47, CAT5.LV19.54, IT.LV15.I, IT.LV15.AM, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.16, TV.LV19.49, TV.LV19.52, TV.LVALG.53