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Indicate the answer choice that best completes the statement or answers the question.

___ 1. Simplify $\sqrt{125}$

a. $5\sqrt{5}$

b. 5

c. $25\sqrt{5}$

d. $5\sqrt{3}$

___ 2. Simplify $\sqrt{32}$

a. $4\sqrt{2}$

b. $16\sqrt{2}$

c. $8\sqrt{2}$

d. $4\sqrt{8}$

Write an algebraic expression for each verbal expression.

___ 3. the sum of 40 and a

a. $a \times 40$

b. $40 \div a$

c. $40 - a$

d. $40 + a$

___ 4. 26 less the product of 4 and x

a. $26 + 4x$

b. $4x \times 26$

c. $26 \div 4x$

d. $26 - 4x$

Evaluate the expression.

___ 5. $7 + 4(-3)^2(6) + 6$

a. 229

b. 439

c. 600

d. 877

___ 6. $68 - 2(9 - 7)$

a. 43

b. 132

c. 100

d. 64

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___ 7. Evaluate the following expression if $a = 9$, $b = 6$, and $c = 7$.
$3c + bc - 2a$
a. 58
b. 291
c. 45
d. 255

___ 8. Evaluate the following expression if $x = 12$, $y = 6$, and $z = 4$.
$\frac{x^2y - 2z}{4}$
a. 576
b. 856
c. 214
d. 16

Simplify the expression. If not possible, write simplified.

___ 9. $2(12c - 6)$
a. $24c - 12c$
b. $24c - 12$
c. simplified
d. $24c - 6$

___ 10. $-4 - 9b - 8 - 7b$
a. $-16b - 12$
b. $-16b + 4$
c. $-2b + 4$
d. $-2b - 12$

___ 11. $10x + 3(-10 - 10x)$
a. $-20x - 30$
b. $40x - 7$
c. $-20x - 7$
d. $40x$

___ 12. Stephanie spends $15 each month to belong to a photography club. As a member of the club she can develop rolls of film for $2.50 each. Write and solve an equation to find the total amount Stephanie will spend this month if she develops 5 rolls of film.
a. $C = 2.50r + 15$; $27.50
b. $C = 2.50r + 15$; $25.00
c. $C = 15r + 2.50$; $77.50
d. $C = 17.50r$; $87.50

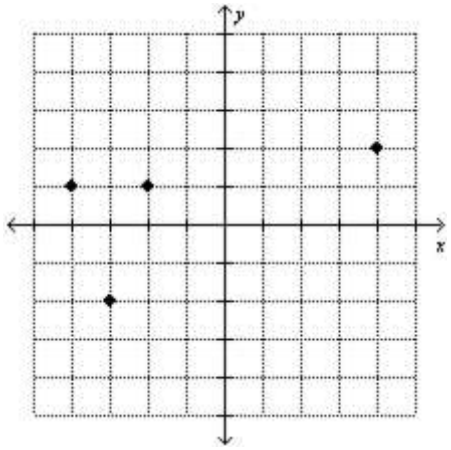
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Express each relation as a graph. Then determine the domain and range.

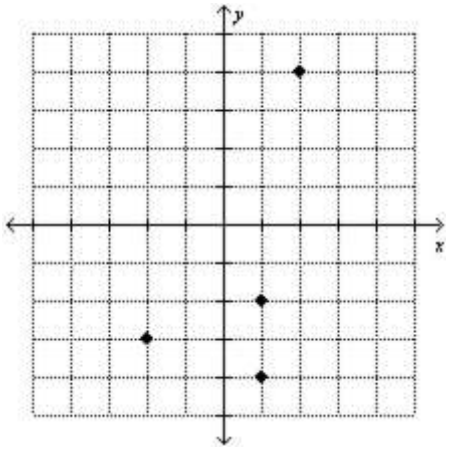
___ 13. {(1, –2), (–2, –3), (2, 4), (1, –4)}

a.



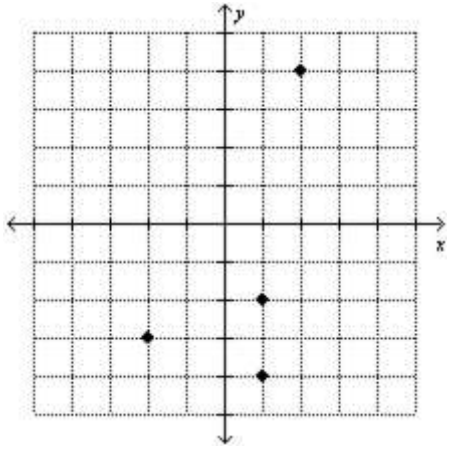
D = {–2, 1, 2}; R = {–4, –3, –2, 4}

b.



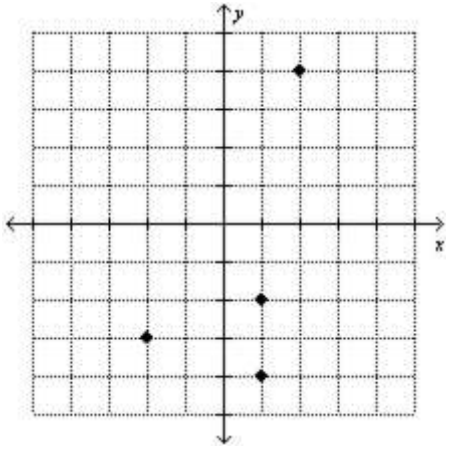
D = {–2, 1, 2, 4}; R = {–4, –3, –2}

c.



D = {–2, 1, 2}; R = {–4, –3, –2, 4}

d.



D = {–2, 1, 2}; R = {–4, –3, –2, 4}

___ 14. Which relation is a function?

a.

x	y
1	3
4	−8
6	2
7	1

b.

x	y
1	3
4	−8
6	2
4	1

c.

x	y
1	3
4	−8
1	2
7	1

d.

x	y
6	3
4	−8
6	2
7	1

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___ 15. 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)}

___ 16. If $f(x) = -x + 2$, find $f(4)$.

a. –6

b. –4

c. –2

d. –3

___ 17. If $g(x) = x^2 - 5x + 3$, find $g(-2)$.

a. 17

b. 11

c. 5

d. –3

Translate the sentence into an equation.

___ 18. Four times the number x increased by 15 is 83.

a. $4x + 15 = 83$

b. $4x - 15 = 83$

c. $4x \times 15 = 83$

d. $4x \div 15 = 83$

___ 19. Eighty-five minus five times x is equal to ten.

a. $85 + 5x = 10$

b. $85 - 5x = 10$

c. $5x - 85 = 10$

d. $(85 - 5)x = 10$

Translate the equation into a verbal sentence.

___ 20. $3y + 8 = 32$

a. Three times a number y minus 8 equals 32.

b. Three times a number y plus 8 equals 32.

c. Three times a number y times 8 equals 32.

d. Three times a number y divided by 8 equals 32.

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Solve the equation. Then check your solution.

___ 21. $x - 3 = 4$

a. –7

b. 7

c. 8

d. 1

___ 22. $96 = n - 56$

a. 40

b. 153

c. –152

d. 152

___ 23. $-\frac{3}{4} + a = \frac{2}{5}$

a. $1\frac{3}{20}$

b. $-\frac{7}{20}$

c. $\frac{5}{9}$

d. $-1\frac{3}{20}$

___ 24. $a - \frac{6}{7} = -\frac{2}{3}$

a. $-\frac{4}{21}$

b. $\frac{4}{21}$

c. $\frac{2}{13}$

d. $-1\frac{11}{21}$

___ 25. $n - 8.8 = 4.48$

a. –4.32

b. 4.32

c. 13.28

d. 39.424

___ 26. $6.61 = -7.5 + x$

a. –14.11

b. 14.11

c. –49.575

d. –0.89

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___ 27. $x + 14 = -36$

a. 50

b. –50

c. –22

d. –49

___ 28. $-25 = -32 + n$

a. –57

b. 8

c. 7

d. –7

___ 29. $\frac{5}{8}k = 10$

a. 400

b. 16

c. 4

d. $6\frac{1}{4}$

___ 30. $6a = 108$

a. 18

b. 648

c. –18

d. 16

___ 31. $-207 = -23q$

a. –184

b. –9

c. 14

d. 9

___ 32. $\frac{g}{100} = \frac{4}{10}$

a. 40

b. $\frac{2}{5}$

c. $10\frac{2}{5}$

d. 250

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___ 33. $\frac{3}{5}x = \frac{3}{8}$

a. $-\frac{9}{40}$

b. $\frac{5}{8}$

c. $\frac{9}{40}$

d. $1\frac{3}{5}$

___ 34. $\frac{a}{-4} - 4 = 18$

a. –56

b. –88

c. 22

d. –55.9

Solve the equation. Then check your solution.

___ 35. $2q - 5 = -6q - 37$

a. –4

b. 4

c. –1

d. –7

___ 36. $\frac{1}{4}x + 4 = -9 + \frac{4}{5}x$

a. $23\frac{7}{11}$

b. $-23\frac{7}{11}$

c. $-12\frac{8}{21}$

d. $9\frac{1}{11}$

___ 37. $\frac{1}{5}(38 + 8b) = \frac{b}{3}$

a. 4

b. 6

c. –12

d. –6

___ 38. Evaluate $|v + 2| - 13$ if $v = 7$.

a. –8

b. 4

c. –4

d. 9

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Solve the open sentence.

___ 39. $10 = |4x + 6|$

a. $x = 1$ and $x = 4$

b. $x = 4$ and $x = -1$

c. $x = 1$ and $x = -4$

d. $x = -1$ and $x = -4$

___ 40. $6 = |2x + 4|$

a. $x = 1$ and $x = -5$

b. $x = 5$ and $x = -1$

c. $x = 1$ and $x = 5$

d. $x = -1$ and $x = -5$

Solve the proportion. If necessary, round to the nearest hundredth.

___ 41. $\frac{8}{3} = \frac{c}{15}$

a. 56

b. 32

c. 48

d. 40

___ 42. $\frac{24}{w} = \frac{12}{6.4}$

a. 19.2

b. 25.6

c. 12.8

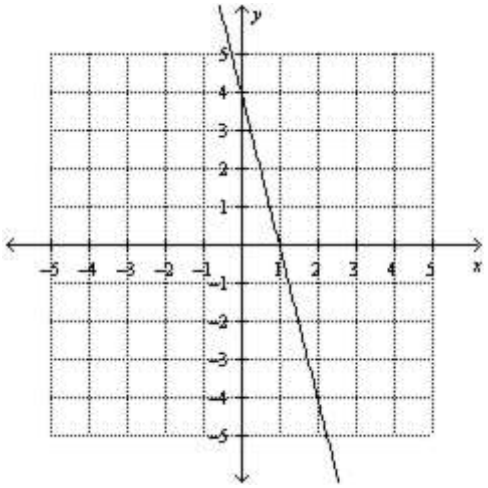
d. 6.4

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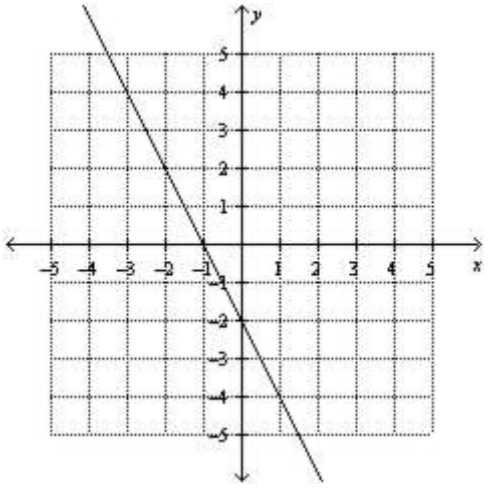
Find the x- and y-intercepts of the graph of each linear function.

___ 43.



a. (1, 0) and (4, 0)
b. (1, 0) and (0, 4)
c. (4, 0) and (0, 1)
d. (0, 1) and (0, 4)

___ 44.



a. (0, –1) and (–2, 0)
b. (0, 1) and (2, 0)
c. (1, 0) and (0, 2)
d. (–1, 0) and (0, –2)

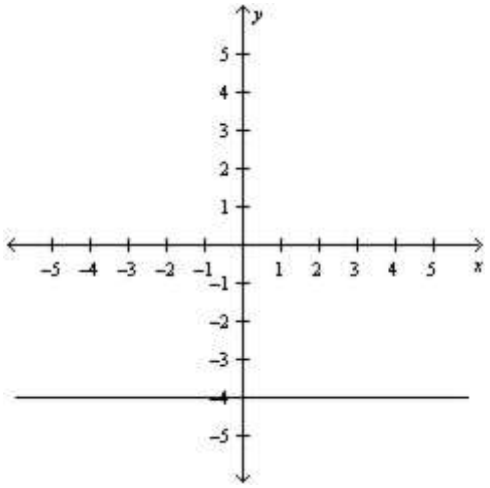
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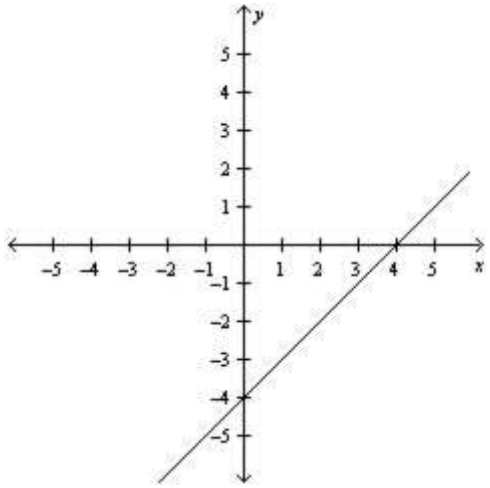
Graph the equation.

___ 45. $y = 4x - 4$

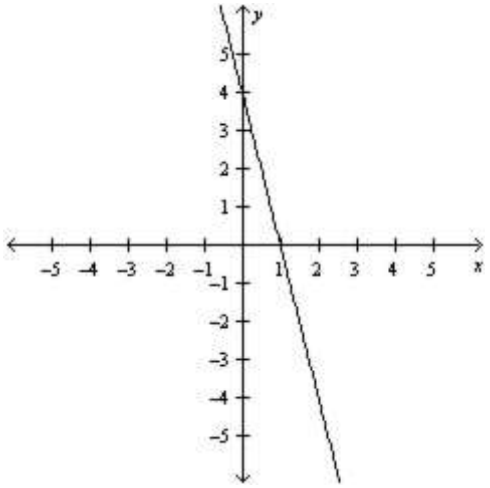
a.



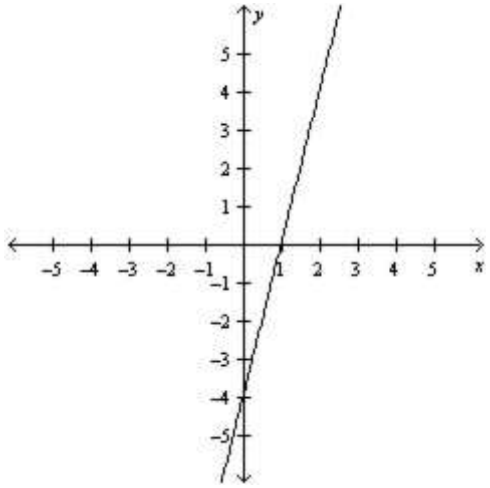
b.



c.



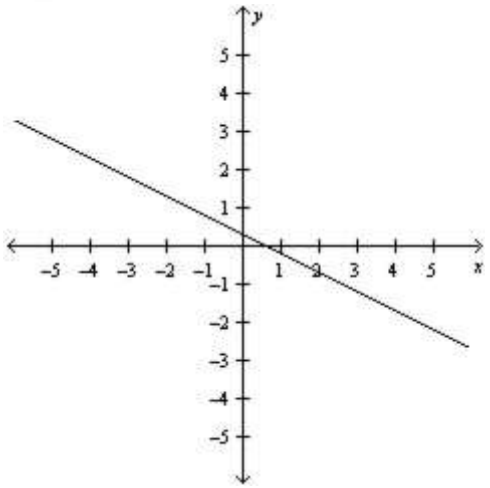
d.



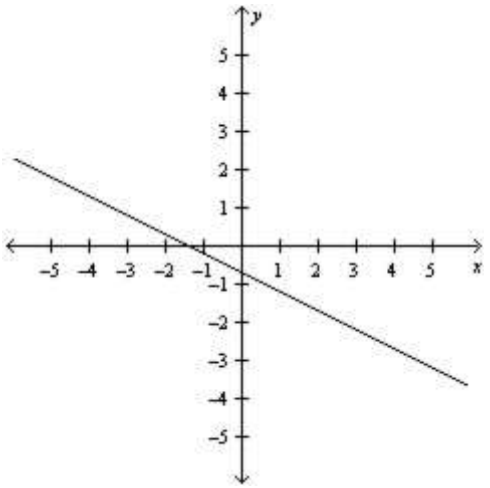
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___ 46. $2x + 4y = +1$

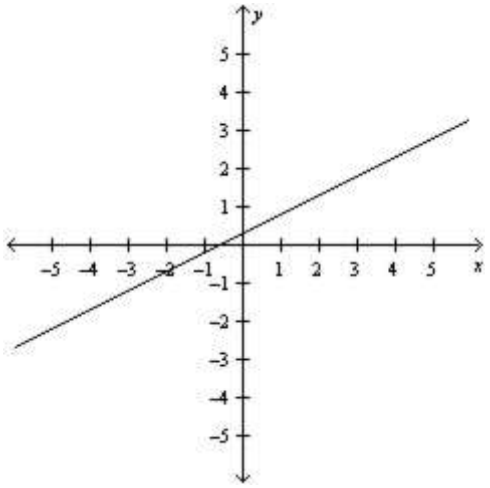
a.



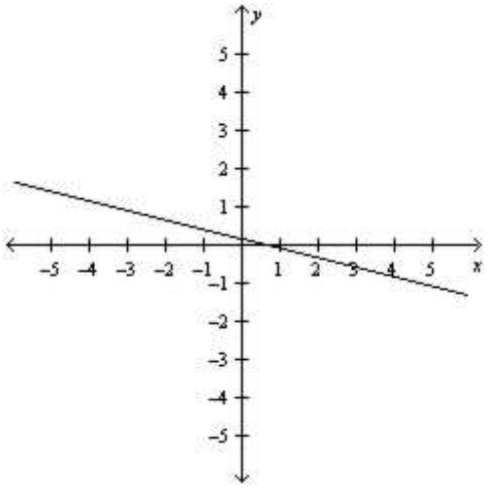
b.



c.



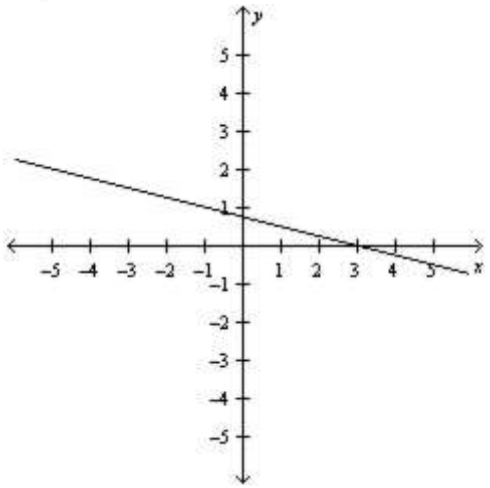
d.



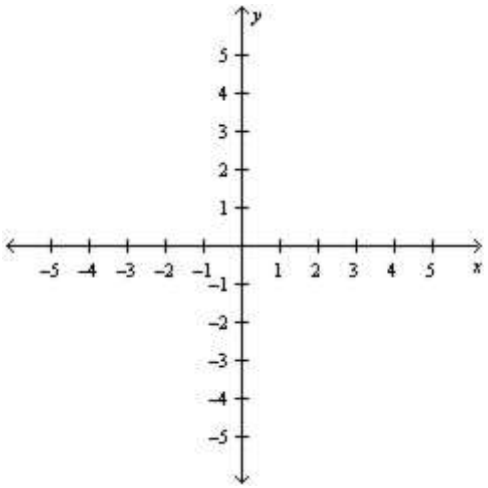
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___ 47. $-x-4y=-3$

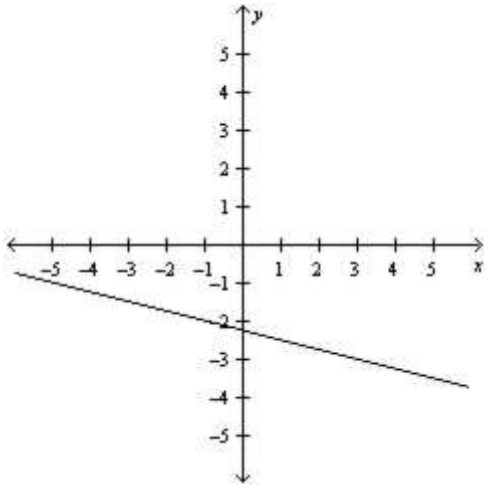
a.



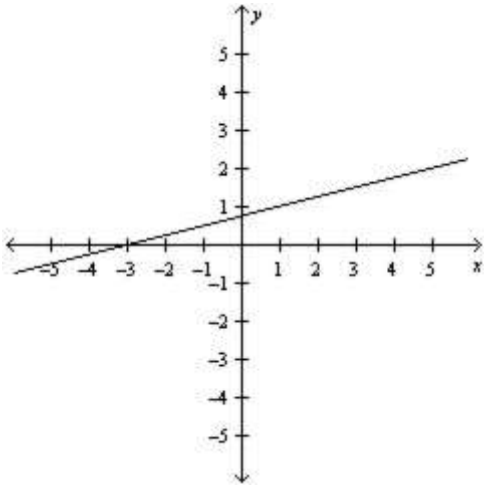
b.



c.



d.



___ 48. A board is leaning against a building so that the top of the board reaches a height of 18 feet. The bottom of the board is on the ground 4 feet away from the wall. What is the slope of the board as a positive number?

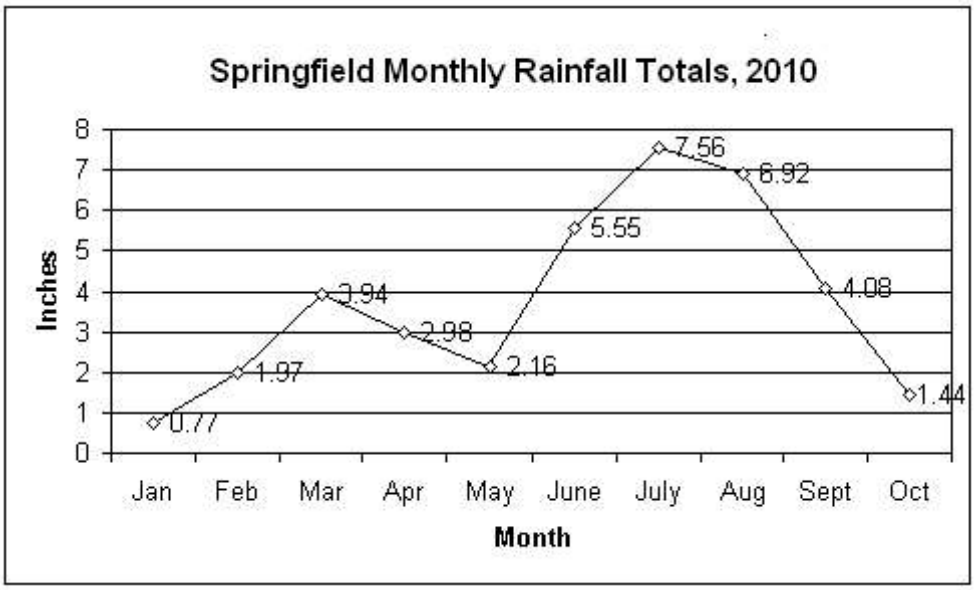
a. $\frac{2}{9}$

b. $\frac{9}{2}$

c. $-\frac{9}{2}$

d. undefined

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___ 49. For which one month period was the rate of change in rainfall amounts in Springfield the greatest?

a. May - June

b. Aug. - Sept.

c. June - July

d. Feb. - March

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

___ 50. (–4, 1), (5, 4)

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

b. 3

c. $-\frac{1}{3}$

d. –3

___ 51. (5, –2), (–4, –2)

a. 0

b. $-\frac{1}{4}$

c. undefined

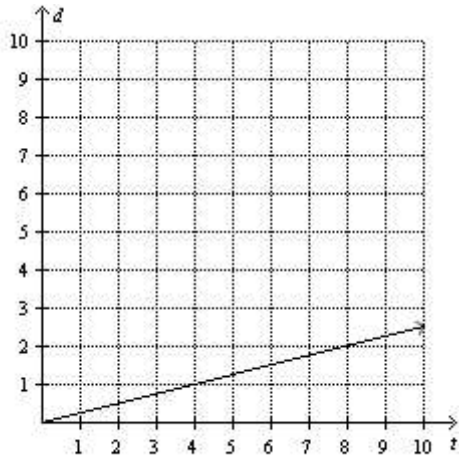
d. $-\frac{1}{9}$

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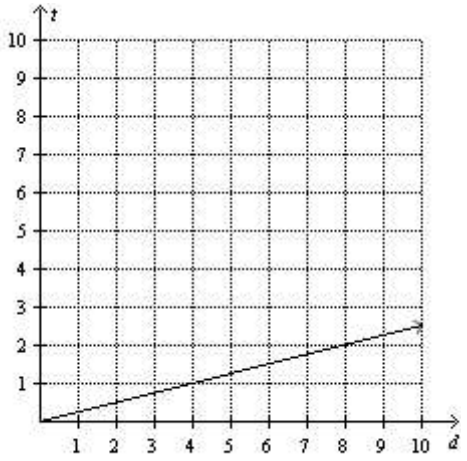
Write a direct variation equation that relates the variables. Then graph the equation.

___ 52. Katie can walk at a rate of 4 miles per hour. Her total distance in t hours is d.

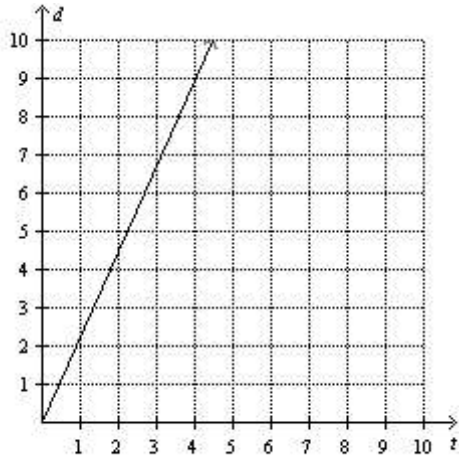
a. $d = \frac{1}{4}t$



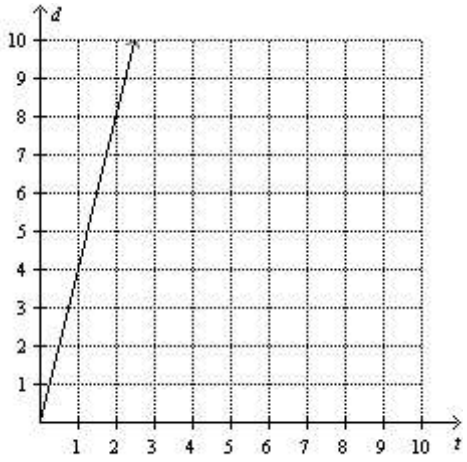
b. $d = 4t$



c. $d = 4t$



d. $d = 4t$



Find the next three terms of the arithmetic sequence.

___ 53. 52, 44, 36, 28, . . .

a. 19, 10, 1

b. 20, 12, 4

c. 17, 6, –5

d. 18, 8, –2

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___ 54. The table below shows the yearly sales of a CD player in a particular store.

Year	1	2	3	4	5	6
Sales	55	100	145	490	235	280

Find an equation in function notation for the relation.

a. $f(x) = 10x + 45$
b. $f(x) = 45x + 10$
c. $f(x) = 45x - 10$
d. $f(x) = 55x - 10$

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

___ 55. slope: $\frac{9}{2}$, y-intercept: 7

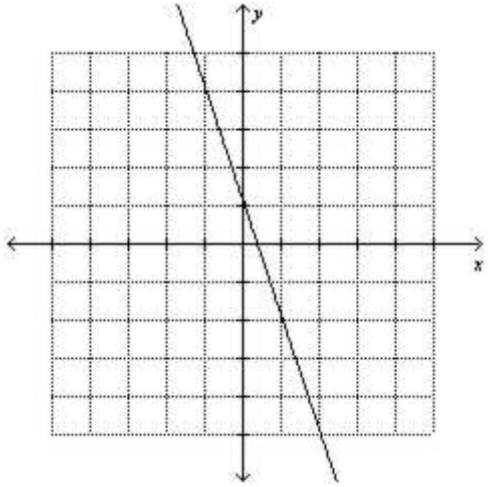
a. $y = -\frac{9}{2}x + 7$ b. $y = \frac{2}{9}x + 7$
c. $y = \frac{9}{2}x - 7$ d. $y = \frac{9}{2}x + 7$

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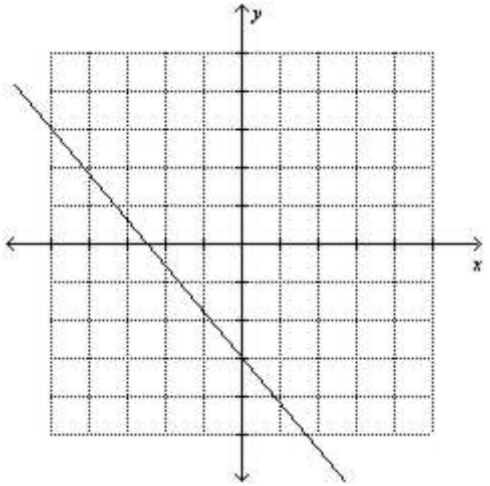
___ 56. Graph the line with the given slope and y-intercept.

slope = $\frac{6}{5}$, y-intercept = –3

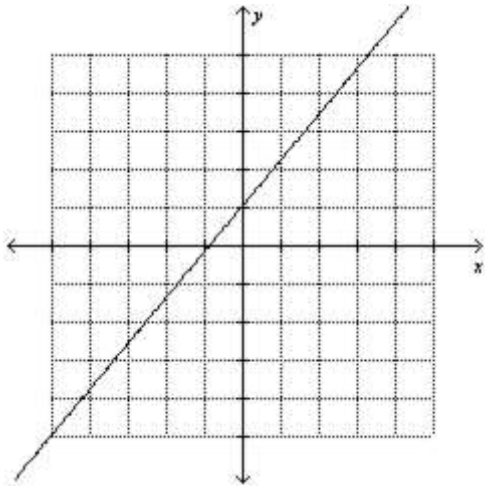
a.



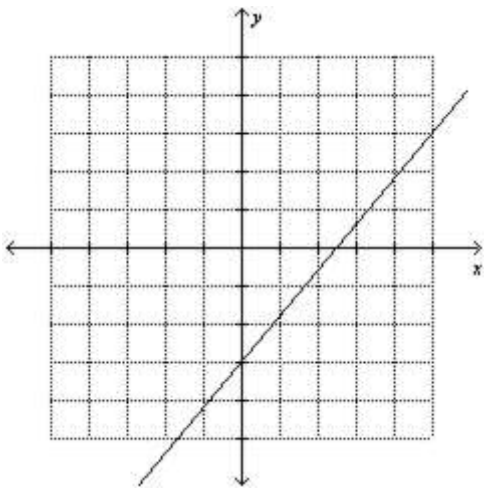
b.



c.



d.

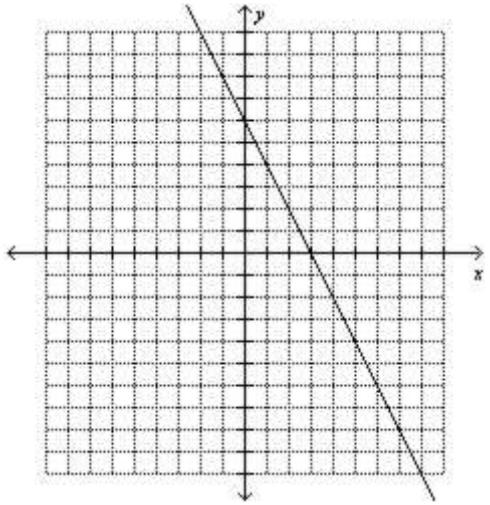


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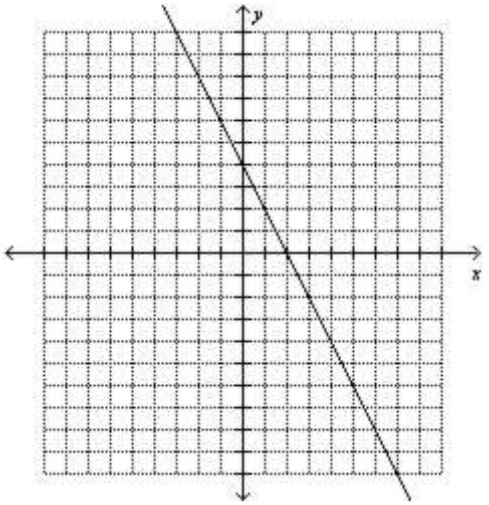
___ 57. Graph the equation using the slope and y-intercept.

$2x + y = 4$

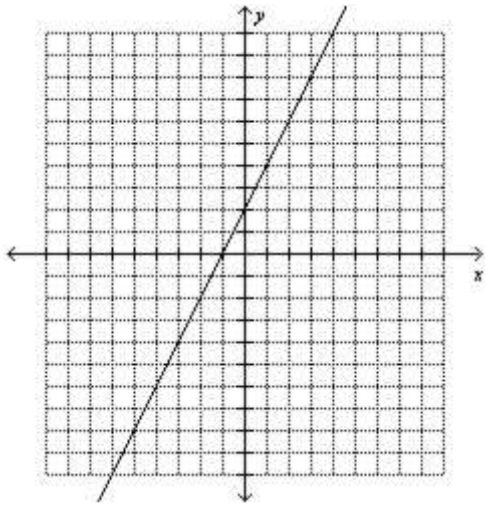
a.



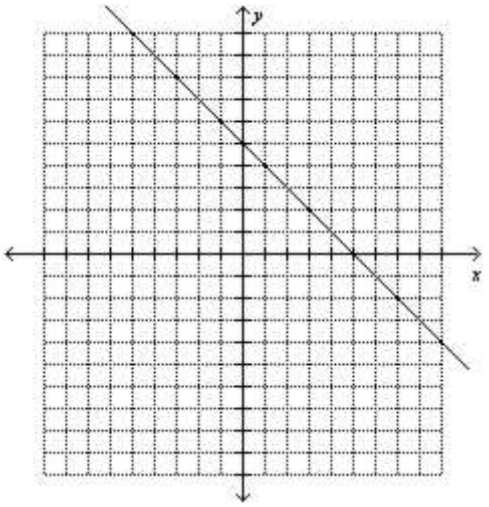
b.



c.



d.



Beach Bike Rentals charges $5.00 plus $0.20 per mile to rent a bicycle.

___ 58. Write an equation for the total cost C of renting a bicycle and riding for m miles.

a. $C = 5 + 0.2m$ b. $C = 0.2 + 5m$

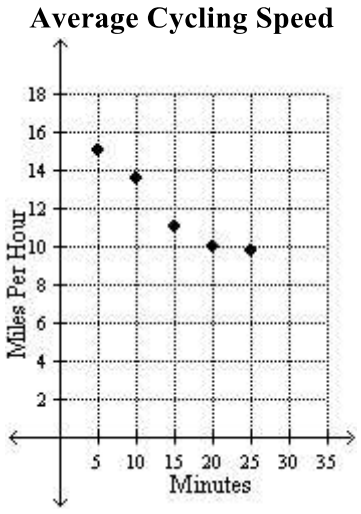
c. $m = 5 + 0.2C$ d. $C = 5 + 2m$

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Determine whether the graph shows a positive correlation, a negative correlation, or no correlation. If there is a positive or negative correlation, describe its meaning in the situation.

___ 59.



a. no correlation

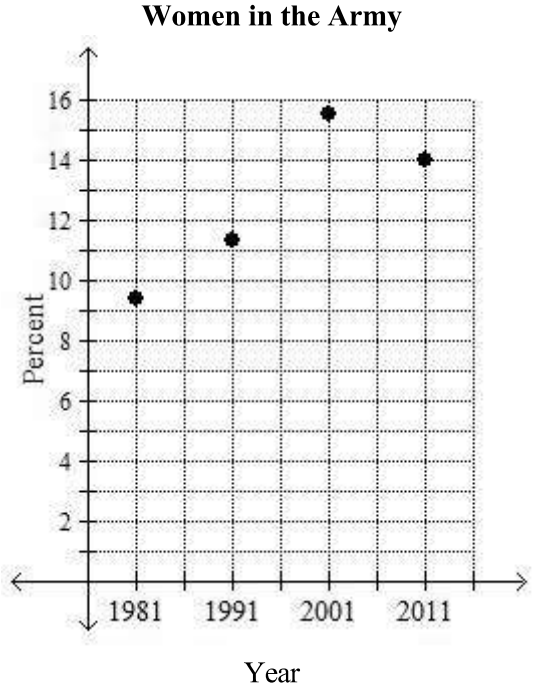
b. negative; as time passes, speed decreases

c. positive; as time passes, speed increases

d. positive; as time passes, speed decreases

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___ 60.



a. positive; as time goes on, more women are in the army.

b. no correlation

c. negative; as time goes on, fewer women are in the army.

d. negative; as time goes on, more women are in the army.

Write a linear equation in slope-intercept form to model the situation.

___ 61. A taxi driver charges $5 plus $0.30 per mile.

a. $C = 0.3 + 5m$ b. $C = 5 - 0.3m$

c. $C = 5 + 0.3m$ d. $m = 5 + 0.3C$

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

___ 62. (–8, 0), $m = 5$

a. $y = -5x + 40$ b. $y = 5x + 40$

c. $y = 5x + 41$ d. $y = 5x - 40$

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

___ 63. (1, –9), (–8, 9)

a. $y = -2x + 15$ b. $y = -2x + 7$

c. $y = 2x - 7$ d. $y = -2x - 7$

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

___ 64. (–6, –2), $m = -2$

a. $y + 2 = -2(x + 6)$ b. $y - 2 = -2(x + 6)$

c. $y + 2 = -2(x - 6)$ d. $y + 2 = 2(x + 6)$

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Write each equation in standard form.

___ 65. $y + 7 = 4(x + 2)$

a. $4x + y = 1$ b. $y = 4x + 1$

c. $4x - y = -1$ d. $4x - y = 15$

Write the equation in slope-intercept form.

___ 66. $y - 5 = -(x - 1)$

a. $y = x + 6$ b. $y = -x + 6$

c. $y = -x - 16$ d. $y = -x - 6$

Write the slope-intercept form of an equation of the line that passes through the given point and is parallel to the graph of the equation.

___ 67. $(-2, -3)$, $y = -4x - 3$

a. $y = 11x - 4$

b. $y = \frac{1}{4}x - \frac{11}{2}$

c. $y = -4x - 11$

d. $y = -4x + 11$

___ 68. $(4, 1)$, $x + 4y = -12$

a. $y = -\frac{1}{4}x + 2$

b. $y = -\frac{1}{4}x - 2$

c. $y = 4x + \frac{8}{5}$

d. $y = 2x + \frac{1}{4}$

Write the slope-intercept form of an equation that passes through the given point and is perpendicular to the graph of the equation.

___ 69. $(-1, -3)$, $2x + y = 5$

a. $y = -2x - \frac{5}{2}$

b. $y = \frac{1}{2}x - \frac{5}{2}$

c. $y = -\frac{1}{2}x + \frac{5}{2}$

d. $y = 5x - 2$

___ 70. $(5, 3)$, $y = \frac{3}{2}x - 2$

a. $y = \frac{3}{2}x + 3$

b. $y = -\frac{2}{3}x + \frac{19}{3}$

c. $y = \frac{2}{3}x + \frac{19}{3}$

d. $y = \frac{9}{2}x + \frac{3}{2}$

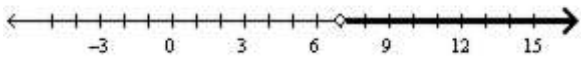
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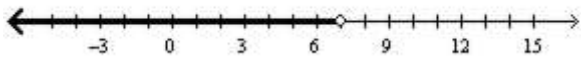
Solve the inequality. Graph the solution on a number line.

___ 71. $k - 2 < 5$

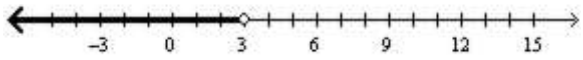
a. $k > 7$



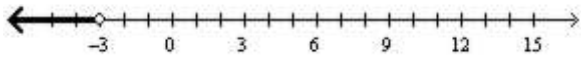
b. $k < 7$



c. $k < 3$

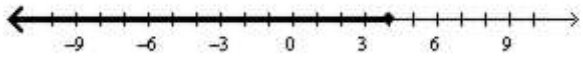


d. $k < -3$

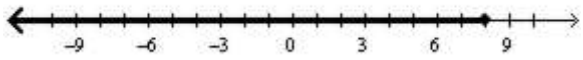


___ 72. $-2 \geq w - 6$

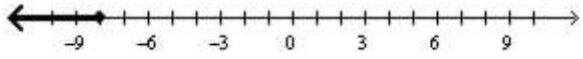
a. $4 \geq w$



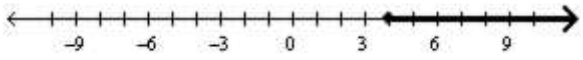
b. $8 \geq w$



c. $-8 \geq w$



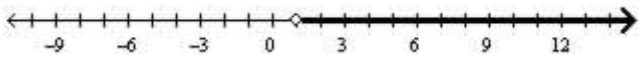
d. $4 \leq w$



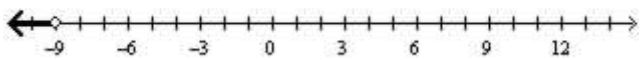
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___ 73. $y + 5 > -4$

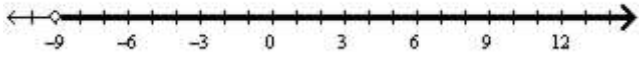
a. $y > 1$



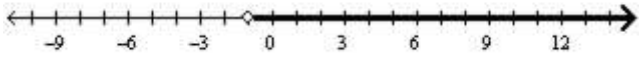
b. $y < -9$



c. $y > -9$

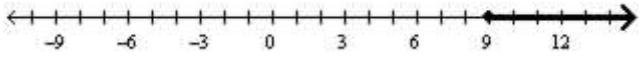


d. $y > -1$

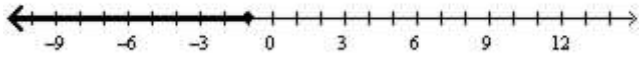


___ 74. $4 \geq -5 + p$

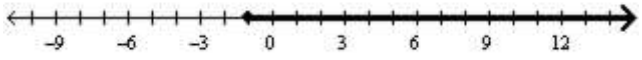
a. $p \geq 9$



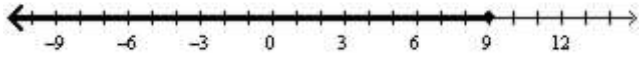
b. $p \leq -1$



c. $p \geq -1$



d. $p \leq 9$



Solve the inequality.

___ 75. $\frac{-3b}{5} > 9$

a. $b > 6$ b. $b > -\frac{5}{3}$

c. $b < -15$ d. $b < -6$

___ 76. $-11f < -55$

a. $f < -44$ b. $f > 605$

c. $f < 5$ d. $f > 5$

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___ 77. $3h + 1 > -26$

a. $h > -10$ b. $h > -9$

c. $h > -27$ d. $h < -9$

___ 78. $3.9d + 19.8 < -2.7d$

a. $-3 > d$ b. $-26.4 < d$

c. $-30 > d$ d. $-2.1 < d$

___ 79. $-2(8z + 4) < -8(2z - 6)$

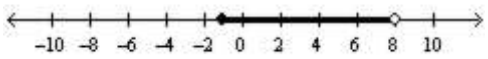
a. $z < 56$ b. $\mathbb{R}$ (all real numbers)

c. $z > 9$ d. $\varnothing$ (the empty set)

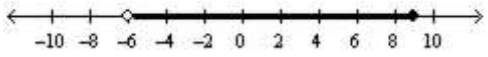
Solve the compound inequality and graph the solution set.

___ 80. $u + 7 \geq 1$ and $u - 5 < 4$

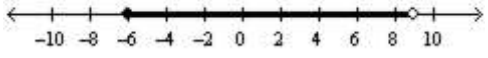
a. $-1 \leq u < 8$



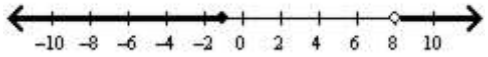
b. $-6 \leq u < 9$



c. $-6 \leq u < 9$



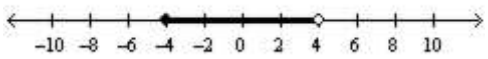
d. $-1 \leq u < 8$



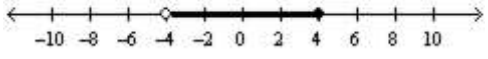
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___ 81. $2k + 9 > 1$ and $3k - 9 \leq 3$

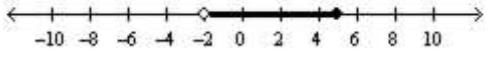
a. $-4 < k \leq 4$



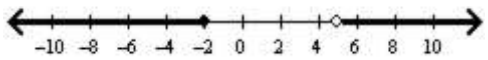
b. $-4 < k \leq 4$



c. $-2 < k \leq 5$

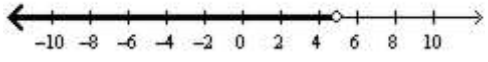


d. $-2 < k \leq 5$

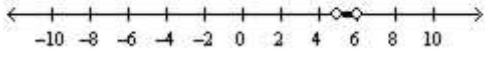


___ 82. $g - 6 > -1$ or $g + 2 > 8$

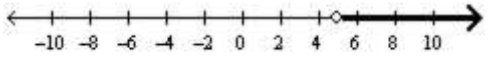
a. $g < 5$



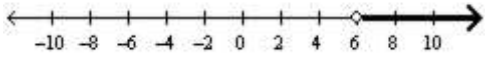
b. $5 < g < 6$



c. $g > 5$



d. $g > 6$



___ 83. Solve $|6c + 1| \geq 1$.

a. $c \leq -\frac{1}{3}$ b. $c \leq 0$

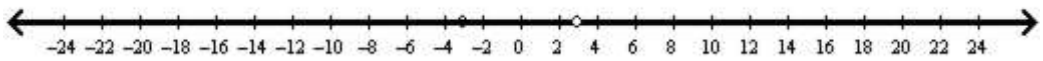
c. $-\frac{1}{3} \leq c \leq 0$ d. $c \leq -\frac{1}{3}$ or $c \geq 0$

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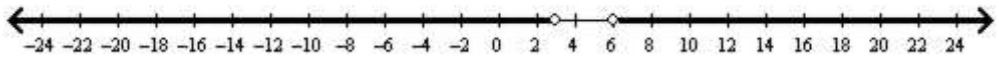
Solve the given inequality. Graph the solution set on a number line.

___ 84. $|p-3|<6$

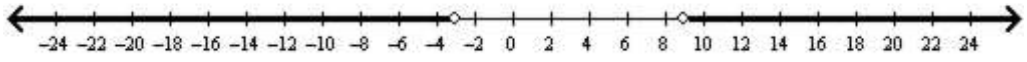
a. The solution set is $\{p \mid p>-3 \text{ or } p<3\}$.



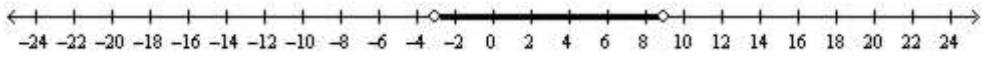
b. The solution set is $\{p \mid p>6 \text{ or } p<3\}$.



c. The solution set is $\{p \mid p>9 \text{ or } p<-3\}$.

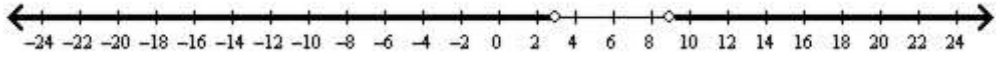


d. The solution set is $\{p \mid -3<p<9\}$.

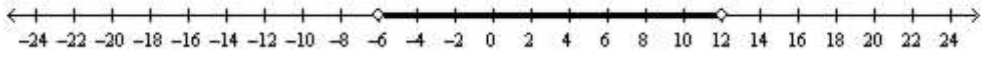


___ 85. $|p-3|>9$

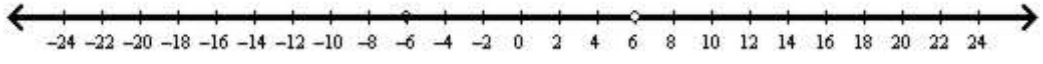
a. The solution set is $\{p \mid p>9 \text{ or } p<3\}$.



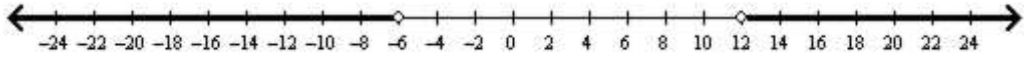
b. The solution set is $\{p \mid -6<p<12\}$.



c. The solution set is $\{p \mid p>-6 \text{ or } p<6\}$.



d. The solution set is $\{p \mid p>12 \text{ or } p<-6\}$.



___ 86. For a certain orchid to grow, the temperature around it must be kept within 12 degrees of 78°F. Write the range of suitable temperatures.

a. $\{x \mid 66 \le x\}$ b. $\{x \mid x \le 90\}$

c. $\{x \mid x \le 66 \text{ or } x \ge 90\}$ d. $\{x \mid 66 \le x \le 90\}$

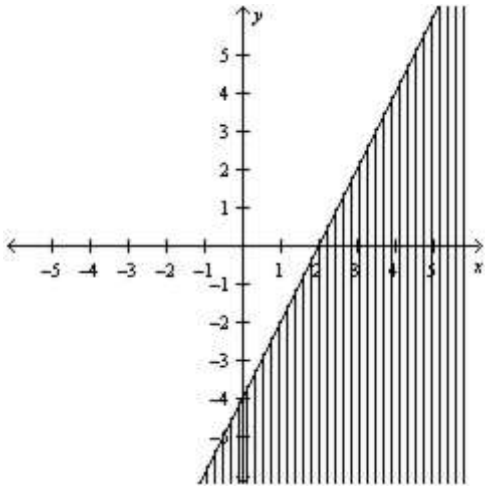
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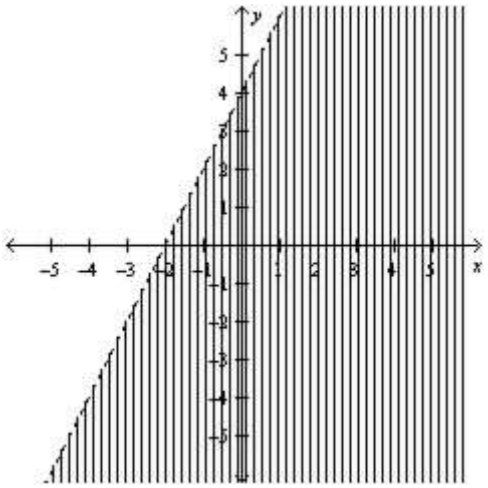
Graph each inequality.

___ 87. $y \leq 2x + 4$

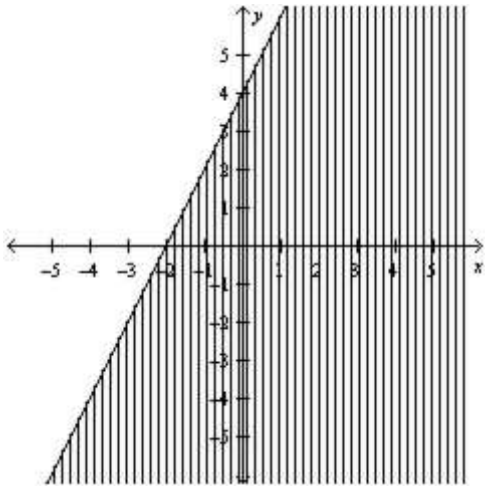
a.



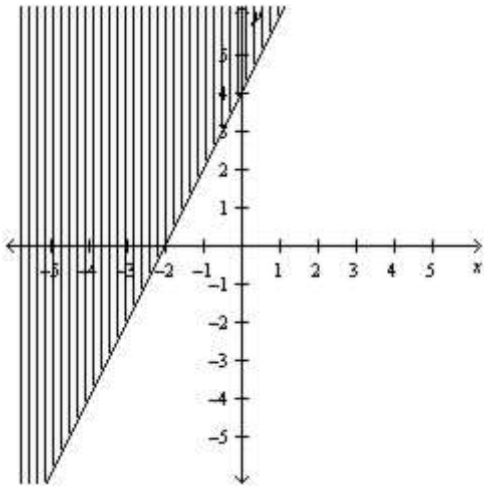
b.



c.



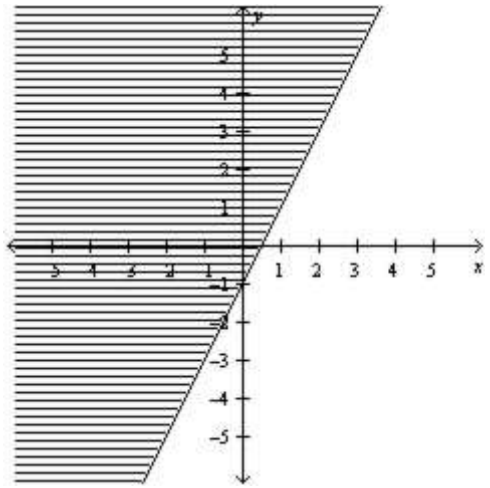
d.



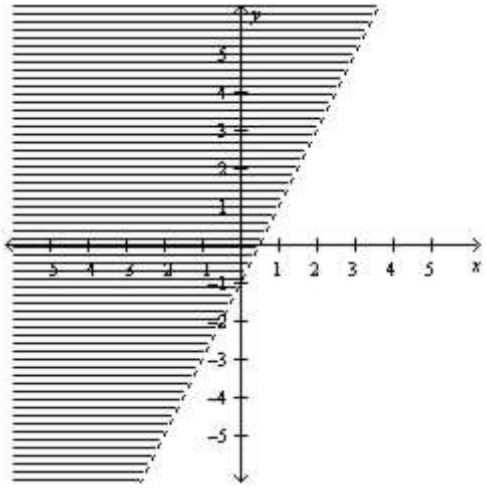
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___ 88. $y > 2x - 1$

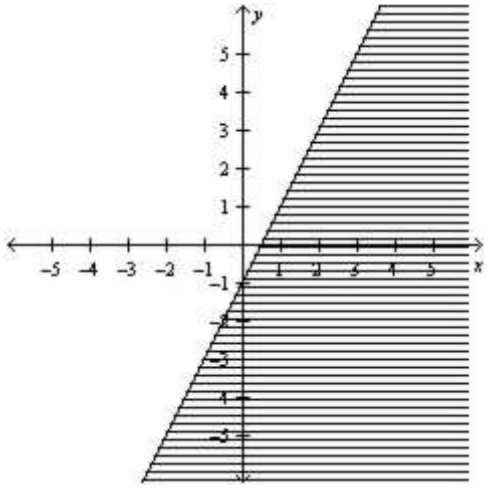
a.



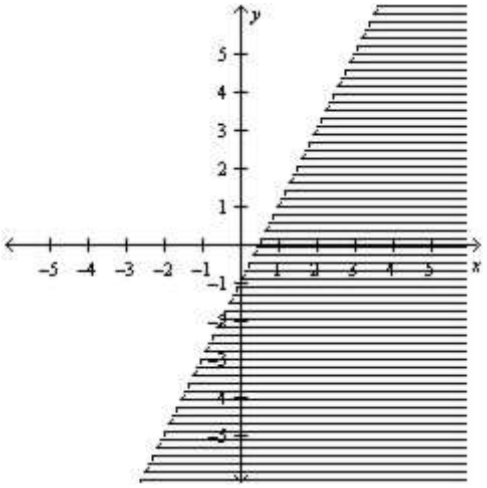
b.



c.



d.



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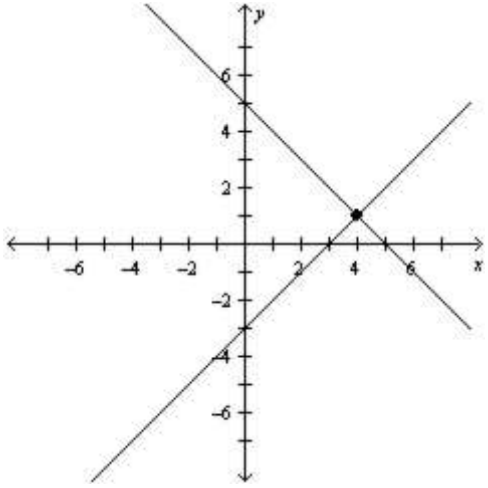
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Graph the system of equations. Then determine whether the system has no *solution,* one *solution, or* infinitely many *solutions. If the system has one solution, name it.*

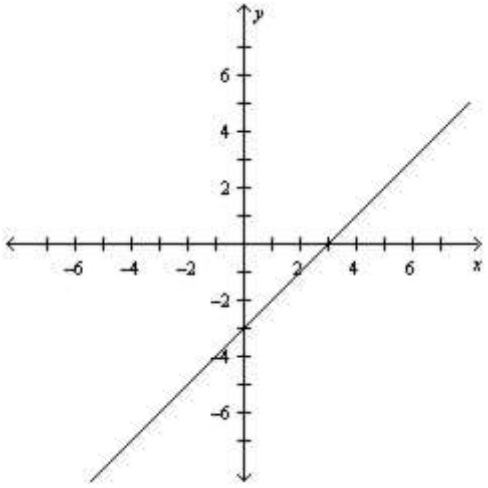
___ 89. $y = -x + 5$

$y = x - 3$

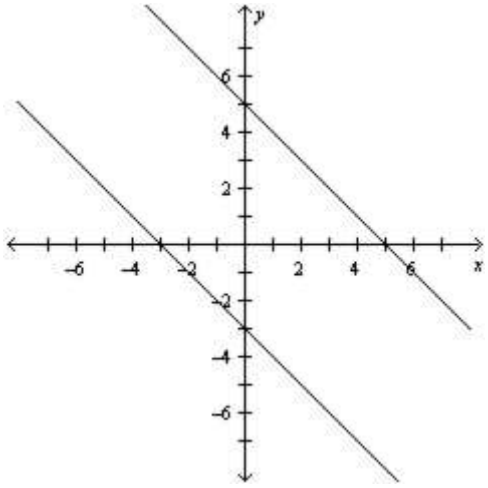
a. one solution; (1, 4)



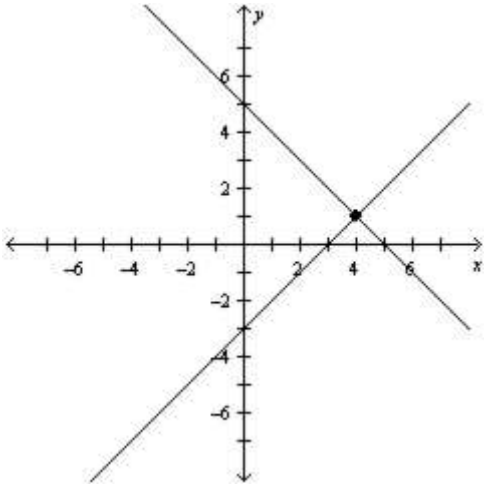
b. infinitely many



c. no solution



d. one solution; (4, 1)

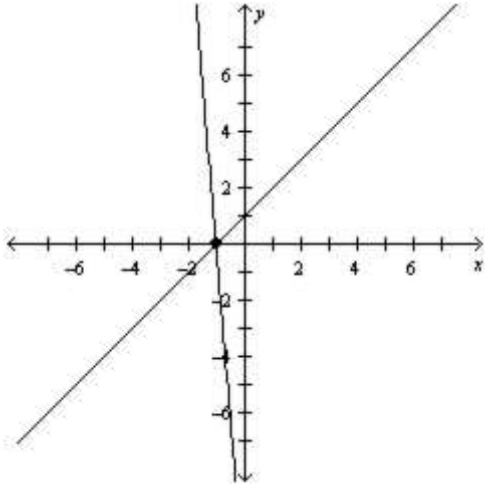


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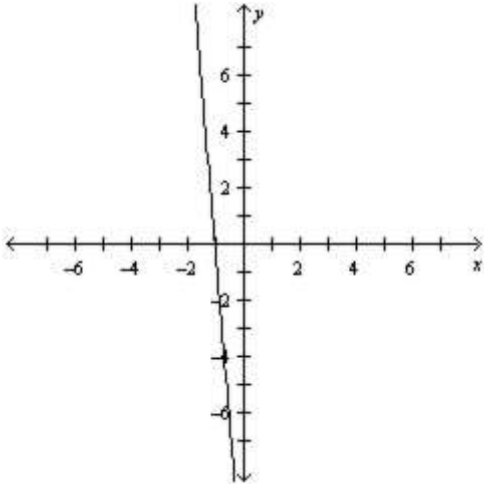
___ 90. $-x + y = 1$

$-6x - 6 = \frac{y}{2}$

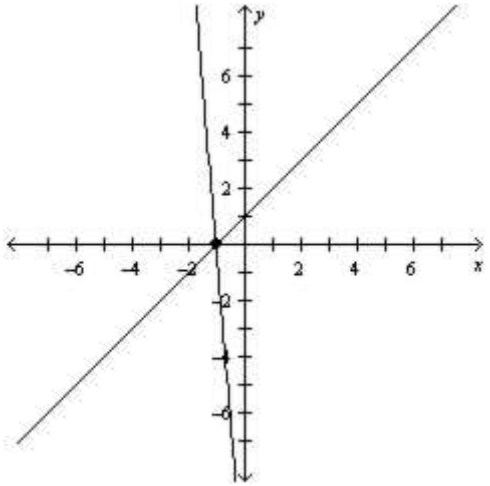
a. one solution; (0, –1)



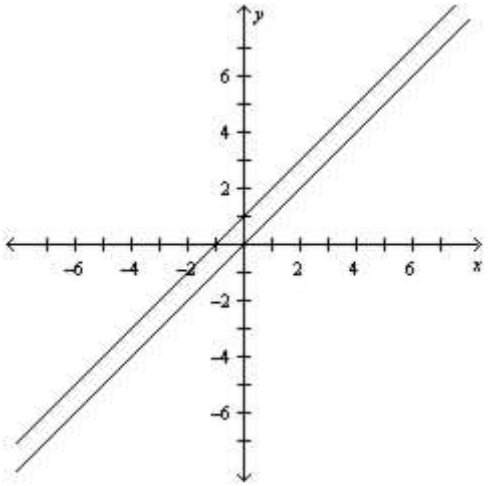
b. infinitely many



c. one solution; (–1, 0)



d. no solution



Solve the system of equations.

___ 91. $y = -2x - 21$

$6x - 8y = -30$

a. (–9, –3) b. (9, 12)

c. (–3, –9) d. (8, 8)

Use elimination to solve the system of equations.

___ 92. $-6x + 3y = 39$

$-6x + 2y = 36$

a. (–5, 3) b. (5, –3)

c. (–3, 4) d. (3, –4)

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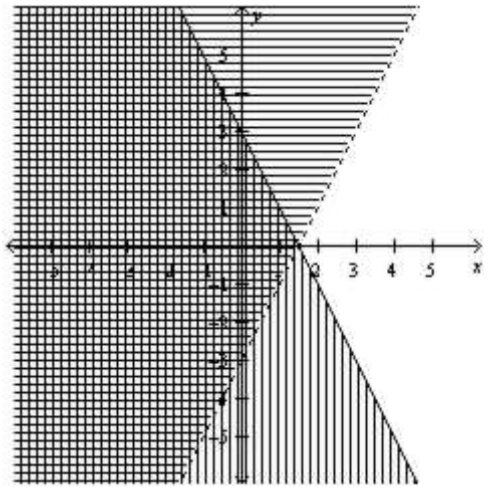
___ 93. $-4x - 6y = -38$
$5x + 18y = 79$
a. (5, 3) b. (3, 5)
c. (–4, 5) d. (4, –5)

___ 94. The sum of two numbers is 90. Their difference is 12. What are the numbers?
a. no solution b. 31 and 59
c. 35 and 47 d. 39 and 51

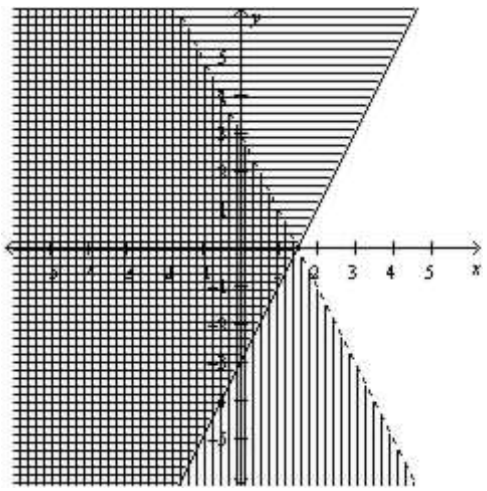
Solve the system of inequalities by graphing.

___ 95. $y \leq -2x + 3$
$y > 2x - 3$

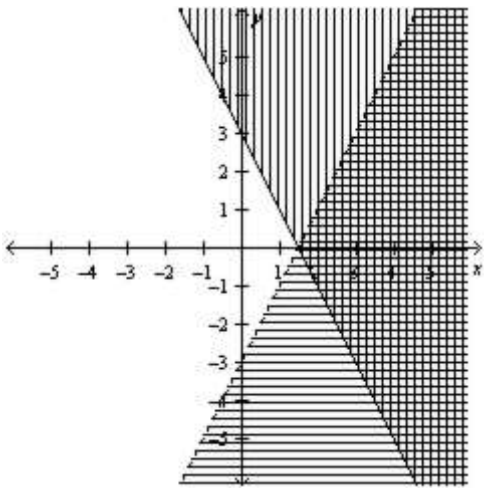
a.



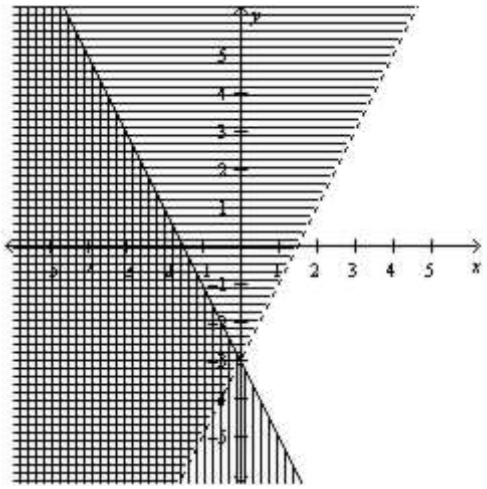
b.



c.



d.



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The sum of two positive integers is less than 80 and their difference is more than 10.

___ 96. Write a system of inequalities to represent this situation.

a. $x+y \leq 80$ $x-y \geq 10$

b. $y < x+80$ $y > x-10$

c. $x+y < 80$ $x-y > 10$

d. $x+y > 80$ $x-10 < y$

Simplify. Assume that no denominator is equal to zero.

___ 97. $(-6hi^3j^4)(6h^2ij^3)$

a. $36h^3i^4j^7$ b. $-36h^3i^4j^7$

c. $36h^2i^3j^{12}$ d. $-36h^2i^3j^{12}$

___ 98. $(3g^3h^4)^4$

a. $12g^7h^8$ b. $81g^{12}h^{16}$

c. $81g^7h^8$ d. $12g^{12}h^{16}$

___ 99. $\frac{3^{11}}{3^6}$

a. 1^5 b. 3^6

c. 3^{-5} d. 3^5

___ 100. $\left(\frac{2a}{a^2}\right)^{-3}$

a. $\frac{a^3}{-8}$ b. $\frac{a^3}{8}$

c. $\frac{8}{a^3}$ d. $\frac{1}{8a^3}$

___ 101. $\frac{40m^{-5}n^5}{2mn^{-3}p^{-4}}$

a. $\frac{20m^6}{n^8p^4}$ b. $\frac{20n^2p^4}{m^4}$

c. $\frac{20n^8p^4}{m^6}$ d. $\frac{20n^8}{m^6p^4}$

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___ 102. Simplify: $\sqrt[6]{64}$.

a. 8
b. 3
c. 384
d. 2

___ 103. Write $58^{1/2}$ in radical form.

a. 29
b. $\sqrt{58}$
c. $\sqrt{29}$
d. 58

Write each polynomial in standard form.

___ 104. $4x^4 + x^6 - 3 + 6x^8$

a. $3 + 4x^4 + x^6 + 6x^8$ b. $6x^8 + x^6 + 4x^4 + 3$
c. $6x^8 + 4x^4 + x^6 - 3$ d. $6x^8 + x^6 + 4x^4 - 3$

Find the sum or difference.

___ 105. $(6a - 4a^2) + (4 + 5a)$

a. $a^2 + 11a + 4$ b. $-4a^2 + 11a + 4$
c. $4a^2 + 11a + 4$ d. $-4a^2 + 11a - 4$

___ 106. $(11p - 4q^2 - q) - (q^2 - 4p + 7p^2)$

a. $7p^2 - 5q^2 + 15p - q$
b. $-7p^2 - 5q^2 + 7p - q$
c. $-7p^2 - 3q^2 + 15p - q$
d. $-7p^2 - 5q^2 + 15p - q$

Find the product.

___ 107. $-2r^3(3r^2 - 4r - 3)$

a. $-6r^5 - 8r^4 - 6r^3$
b. $-6r^5 + 8r^4 + 6r^3$
c. $6r^5 - 8r^4 - 6r^3$
d. $-6r^6 + 8r^3 + 6r^3$

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Find the product.

___ 108. $(r - 9)(r + 4)$

a. $r^2 - 36$ b. $r^2 + 13r - 36$

c. $r - 5$ d. $r^2 - 5r - 36$

___ 109. $(-5k + 3)(-4k^2 + 3k - 8)$

a. $-4k^2 - 2k - 5$

b. $20k^3 - 27k^2 + 49k - 24$

c. $-20k^3 - 27k^2 - 31k - 24$

d. $-4k^2 - 15k - 24$

___ 110. $(b + 6)^2$

a. $b^2 + 12b + 36$ b. $b^2 + 36$

c. $b^2 + 36b + 36$ d. $2b + 12$

Factor the polynomial.

___ 111. $10g + 14h$

a. $2(5g + 7h)$ b. $5(2g + 7h)$

c. $2h(5g + 7)$ d. $7(5g + 2h)$

Solve the equation.

___ 112. $(r - 3)(r + 6) = 0$

a. $\{-3, 6\}$ b. $\{0, 18\}$

c. $\{3, -6\}$ d. $\{-3\}$

Factor the trinomial.

___ 113. $x^2 + 11x + 30$

a. $(x + 7)(x + 4)$ b. $(x + 10)(x + 3)$

c. $(x - 6)(x - 5)$ d. $(x + 6)(x + 5)$

Solve the trinomial equation.

___ 114. $r^2 - 11r + 28 = 0$

a. $\{14, 2\}$ b. $\{7, 4\}$

c. $\{-7, -4\}$ d. $\{9, 2\}$

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Solve the equation.

___ 115. $12x^2 - 14x + 4 = 0$

a. $\{\frac{2}{3}, \frac{1}{2}\}$ b. $\{2, 3\}$

c. $\{-6, -8\}$ d. $\{6, 8\}$