Name: _____ **Class:** _____ **Date:** _____

Financial Algebra Summer Review Work 2018

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

Write the decimal as a percent.

____ 1. 0.036
a. 3.6% b. 36% c. 37% d. 3.7%

Write the percent as a decimal.

____ 2. 28%
a. 0.29 b. 2.8 c. 2.9 d. 0.28

Use an equation to solve the percent problem.

____ 3. Sales tax in one state is 4%. What is the amount of tax on a $56.70 purchase?
a. $56.74 b. $2.27 c. $4.57 d. $22.68

____ 4. There are 1,282 people under the age 20 in Pierce City. This represents 19% of the total population. What is the total population?
a. 6,747 people
b. 24,358 people
c. 12,820 people
d. 6,897 people

____ 5. What percent of 380 is 190?
a. 50%
b. 7%
c. 5%
d. 70%

Perform the indicated operation WITHOUT A CALCULATOR.

____ 6. $\frac{1}{8} \cdot \frac{6}{13}$
a. $17\frac{1}{3}$ b. $\frac{3}{4}$ c. $\frac{8}{13}$ d. $\frac{3}{52}$

____ 7. $\frac{7}{8} + \frac{1}{6}$
a. $\frac{25}{24}$ b. $\frac{24}{25}$ c. $\frac{7}{48}$ d. $\frac{5}{16}$

____ 8. $\frac{3}{8} - \frac{1}{6}$
a. $\frac{11}{48}$ b. $\frac{1}{16}$ c. $\frac{5}{24}$ d. $\frac{24}{13}$

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____ 9. $\frac{2}{3} \div \frac{3}{6}$

a. $\frac{4}{3}$ b. 1 c. $\frac{3}{4}$ d. $\frac{1}{3}$

Write the ratio or rate in simplest form. YOU MAY USE A CALCULATOR.

____ 10. Write 336 mi in 11.2 h as a rate in simplest form.

a. 45 mi/h b. 30 mi/h c. 35 mi/h d. 40 mi/h

Solve the proportion.

____ 11. $\frac{5}{8} = \frac{h}{40}$

a. $\frac{1}{64}$ b. 1 c. 10 d. 25

____ 12. $\frac{60}{k} = \frac{20}{3}$

a. 98 b. 100 c. 9 d. 11

____ 13. A fruit stand charges $3 for 4 pounds of assorted fruits. How much would 20 pounds of assorted fruits cost?

a. $15 b. $8 c. $16 d. $21

Simplify the expression WITHOUT A CALCULATOR.

____ 14. $-1 + (-2)$

a. 1 b. 3 c. -3 d. -1

____ 15. $-2 + 7$

a. 5 b. -5 c. 9 d. -9

____ 16. $1 - (-2)$

a. -3 b. -1 c. 3 d. 1

____ 17. $4 \cdot (-4)$

a. -16 b. 2 c. 16 d. 0

____ 18. $-42 \div (-7)$

a. -49 b. -6 c. 49 d. 6

____ 19. $2^2 - 3(2+4) + 13$

a. -19 b. -1 c. 15 d. 9

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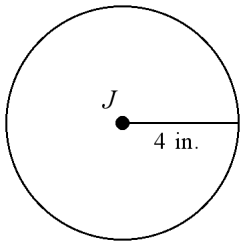
Find the area of the figure. YOU MAY USE A CALCULATOR.

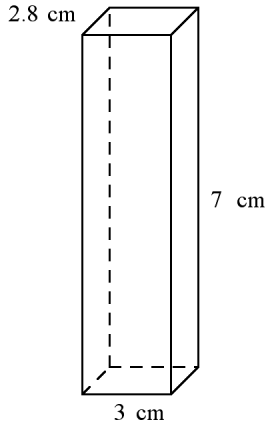
____ 20.



a. 25 $in.^2$ b. 33 $in.^2$ c. 50 $in.^2$ d. 66 $in.^2$

Find the volume of the figure.

____ 21.



Not drawn to scale

a. 21 cm^3 b. 117.6 cm^3 c. 98 cm^3 d. 58.8 cm^3

____ 22. In which quadrant is the point (7, 5)?

a. II b. IV c. III d. I

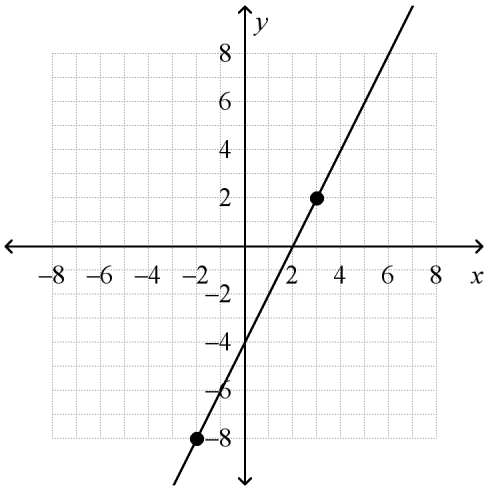
____ 23. In which quadrant is the point (–7, –6)?

a. III b. IV c. I d. II

Name: _____

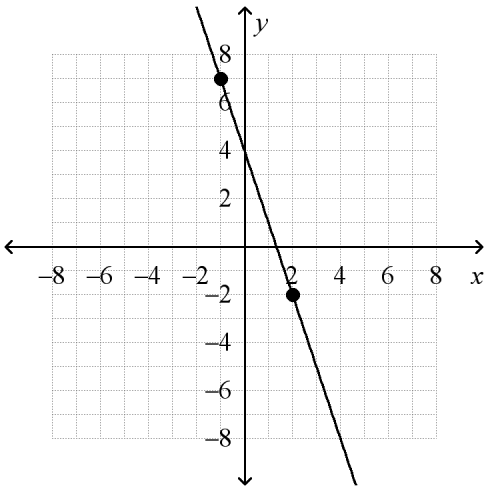
Find the slope of the line.

____ 24.



a. $\frac{1}{2}$ b. 2 c. $-\frac{1}{6}$ d. -6

____ 25.



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

____ 26. Find the slope of the line containing the points $(-2,7)$ and $(3,-3)$.

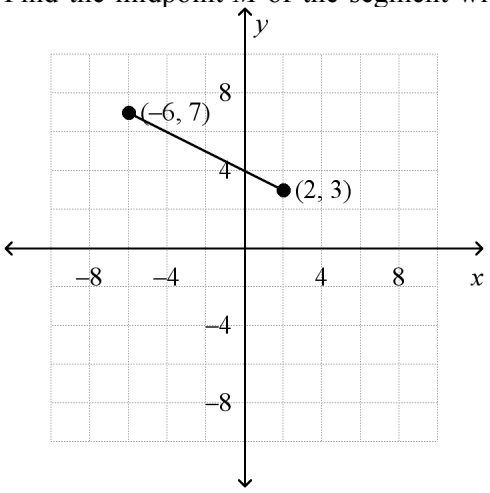
a. $-\frac{1}{2}$ b. -2 c. $\frac{1}{4}$ d. 4

____ 27. Find the midpoint M of the segment with endpoints $C(6, 2)$ and $D(-2, -4)$.

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

Name: _____

____ 28. Find the midpoint M of the segment with the endpoints shown.



a. $M(-4, 5)$ b. $M(-2, 10)$ c. $M(-2, 5)$ d. $M(-4, 10)$

Write the expression using exponents.

____ 29. $x \cdot x \cdot x \cdot x$

a. x^4 c. $4x^4$

b. $4x$ d. $x + 4$

____ 30. $a \cdot a \cdot a \cdot a \cdot a \cdot b \cdot b \cdot b$

a. $a^5 b^3$ c. $5a^5 b^3$

b. $15ab$ d. $ab + 15$

____ 31. $\dfrac{2 \cdot 2 \cdot 2}{x \cdot x \cdot x \cdot x \cdot x}$

a. $2^3 x^5$ c. $\dfrac{6}{x^5}$

b. $\dfrac{2^3}{x^5}$ d. $\dfrac{6}{5x}$

Write the expression so that all exponents are positive.

____ 32. s^{-7}

a. s^7 c. $\dfrac{1}{s^7}$

b. $\dfrac{s}{8}$ d. $1 - s^7$

Name: _____

____ 33. $wx^{-3}y^2z^{-6}$

a. $\dfrac{wy^2}{x^3z^6}$

b. $\dfrac{y^2}{wx^3z^6}$

c. $\dfrac{x^3z^6}{wy^2}$

d. $wy^2 - x^2z^6$

____ 34. $2m^0n^{-1}$

a. $2m$

b. $\dfrac{2}{n}$

c. 0

d. 1

Simplify. Write the answer in standard form.

____ 35. $(3g^2 - 8g - 4) - (6g^2 + 4g - 5)$

a. $9g^2 - 12g + 9$

b. $9g^2 + 12g - 1$

c. $-3g^2 - 12g + 1$

d. $-3g^2 + 12g + 1$

____ 36. $2(d^2 - 9d - 5) + (d^2 - 9)$

a. $3d^2 + 18d - 10$

b. $2d^2 - 27d - 10$

c. $3d^2 - 18d - 19$

d. $2d^2 - 27d + 19$

____ 37. $(k-7)(k-9)$

a. $k^2 + 16k - 63$

b. $k^2 - 16k + 63$

c. $k^2 + 16k + 63$

d. $k^2 - 16k - 63$

Factor the expression.

____ 38. $x^2 + 9x + 14$

a. $(x + 2)(x + 7)$

b. $(x + 2)(x - 7)$

c. $(x - 2)(x + 7)$

d. $(x - 2)(x - 7)$

____ 39. $-3x^2 - 3x + 60$

a. $(x - 5)(x - 4)$

b. $(x + 5)(x + 4)$

c. $-3(x - 5)(x + 4)$

d. $-3(x + 5)(x - 4)$

Write the number in scientific notation.

____ 40. 36,000,000

a. 3.6×10^9

b. 3.6×10^8

c. 36×10^6

d. 3.6×10^7

____ 41. 0.0000234

a. 2.34×10^{-5}

b. 2.34×10^{-6}

c. 234×10^6

d. 23.4×10^5

Name: _____

Write the number in standard form.

____ 42. 3.6×10^6

a. 3,600,000
b. 360,000
c. 36,000,000
d. 36,000

____ 43. 6.49×10^{-4}

a. 0.00649
b. –0.0649
c. 0.000649
d. –0.0000649

Find the product or quotient. Write the answer in scientific notation and in standard form. Round to the appropriate number of significant digits.

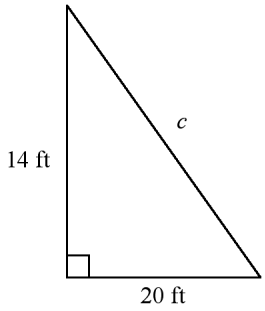
____ 44. $\left(8.55 \times 10^2\right)\left(4.36 \times 10^{-4}\right)$

a. 3.73×10^{-6}; 0.00000373
b. 8.55×10^{-1}; 0.855
c. 3.73×10^{-1}; 0.373
d. 1.291×10^{-1}; 0.1291

____ 45. $\left(2.3 \times 10^3\right) \div \left(8.42 \times 10^5\right)$

a. 8.42×10^8; 0.00842
b. 1.937×10^{-3}; 0.001937
c. 2.7×10^{-3}; 0.0027
d. 270×10^2; 270

____ 46. Find the value of *c*. Round to the nearest tenth.



Not drawn to scale

a. 24.4 ft
b. 596 ft
c. 14.7 ft
d. 20.3 ft

In the problem, *a* and *b* are the lengths of the legs of a right triangle and *c* is the length of the hypotenuse. Find the missing length and round to the nearest tenth, if necessary.

____ 47. *a* if $b = 4$ and $c = 20$

a. 22.1
b. 20.6
c. 19.6
d. 20.3

____ 48. Find the distance between (3, 4) and (4, –6). If necessary, round to the nearest tenth.

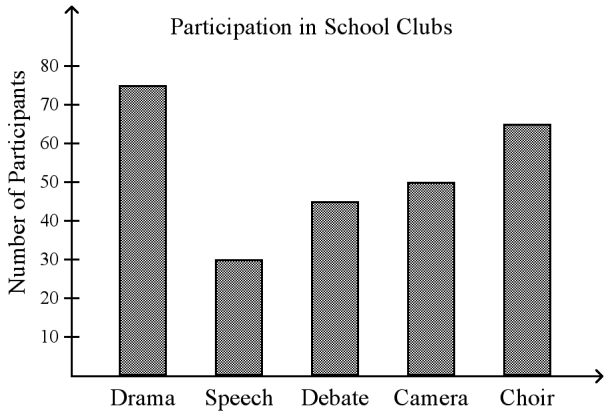
a. 10 units
b. 101 units
c. 7.3 units
d. 53 units

Name: _____

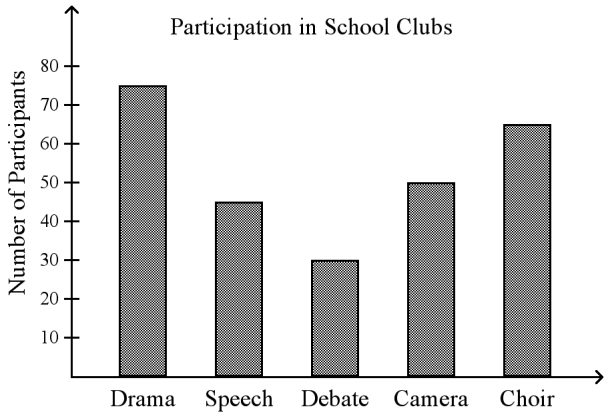
____ 49. Which of the following bar graphs shows the number of participants in various school clubs as listed below?

Drama	Speech	Debate	Camera	Choir
75	30	45	50	65

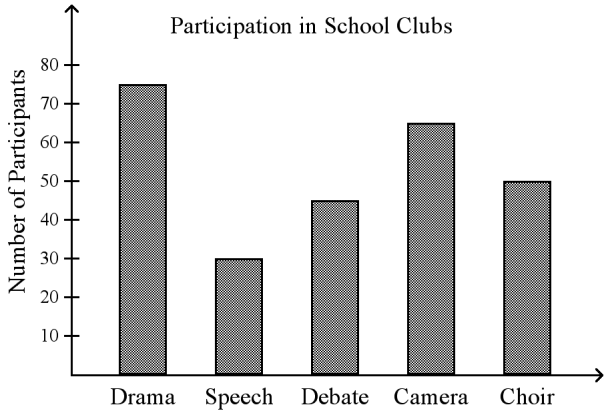
a.



b.



c.



d. none of these

Name: _____

____ 50. The number of patients treated at Dr. Walters's dentist office each day was recorded for eight days. Use the data 10, 7, 8, 7, 6, 4, 3, 13 to find the mean, median, and mode for this sample.

a. 7.25, 7, 7
c. 5.625, 7, 7
b. 7.25, 8, 7
d. 5.625, 8, 7

What is the solution of the equation?

____ 51. $w - 2 = -3$

a. $-\frac{3}{2}$
c. -1
b. -5
d. 6

____ 52. $3.4 = 2p$

a. $\frac{1}{2}$
c. 1.7
b. 3.4
d. 0.3

What is the solution of the equation?

____ 53. $4.7x + 3.8 = 13.2$

a. 3.6
b. 3.7
c. 2
d. 3

What is the solution of the equation?

____ 54. $\frac{b + 6}{5} = 10$

a. 44
b. -4
c. 56
d. 8

What is the solution of the equation?

____ 55. $3(y - 5) + 2 = 5$

a. 4
b. 7
c. -4
d. 6

What is the solution of the equation?

____ 56. $6x - 3 = 5x - 5$

a. -4
b. -2
c. 0
d. -1

____ 57. $6 - t = 2t$

a. $\frac{1}{6}$
b. 6
c. $\frac{1}{2}$
d. 2

____ 58. $-4x - 9 = -5 - 6x$

a. 4
b. 1
c. -1
d. 2

Name: _____

What is the solution of each equation?

____ 59. $2 + 3z = 5 + 3z$

a. $-\frac{1}{2}$

b. infinitely many solutions

c. no solution

d. $2\frac{1}{3}$

____ 60. Is 112 prime or composite?

a. composite

b. prime

Find the greatest common factor of the numbers.

____ 61. 14 and 38

a. 5 b. 6 c. 2 d. 4

Find the least common multiple of the set of numbers.

____ 62. 5 and 20

a. 20 b. 100 c. 10 d. 30

____ 63. Identify the fraction that is equivalent to $\frac{5}{7}$.

a. $\frac{25}{28}$ b. $\frac{20}{35}$ c. $\frac{30}{35}$ d. $\frac{25}{35}$

Write the fraction in simplest form.

____ 64. $\frac{14}{24}$

a. $\frac{7}{13}$ b. $\frac{2}{3}$ c. $\frac{7}{12}$ d. $\frac{6}{11}$

Write as a decimal.

____ 65. $4\frac{1}{12}$

a. 16 b. $0.\overline{3}$ c. $4.08\overline{3}$ d. $0.08\overline{3}$

Write as a fraction in simplest form.

____ 66. 0.32

a. $\frac{32}{99}$ b. $\frac{3}{10}$ c. $\frac{8}{25}$ d. $\frac{99}{32}$

Name: _____

What is an algebraic expression for the word phrase?

____ 67. the sum of n and 9

a. $n - 9$ b. $n + 9$ c. $\frac{n}{9}$ d. $9n$

____ 68. the difference of r and 3

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

____ 69. the product of g and 4

a. $4g$ b. $g + 4$ c. $\frac{g}{4}$ d. $g - 4$

____ 70. Evaluate $u + xy$, for $u = 18$, $x = 10$, and $y = 8$.

a. 188 b. 36 c. 98 d. 224

What is the simplified form of each expression?

____ 71. $\sqrt{169}$

a. 338 b. 84.5 c. 12 d. 13

____ 72. $\sqrt{\frac{25}{100}}$

a. $\frac{1}{20}$ b. $\frac{1}{2}$ c. 20 d. $\frac{5}{2}$

____ 73. What is the order of $\sqrt{5}$, -0.1, $-\frac{5}{3}$, 0.7, $\sqrt{2}$ from least to greatest?

a. $0.7, \sqrt{2}, -\frac{5}{3}, \sqrt{5}, -0.1$

b. $\sqrt{5}, \sqrt{2}, 0.7, -\frac{5}{3}, -0.1$

c. $-\frac{5}{3}, -0.1, 0.7, \sqrt{2}, \sqrt{5}$

d. $-0.1, 0.7, \sqrt{2}, \sqrt{5}, -\frac{5}{3}$

Simplify each expression.

____ 74. $\frac{4sg}{-5g}$

a. $-\frac{4}{5}s$

b. $\frac{4}{5}g$

c. $-\frac{5}{4}s$

d. $-\frac{5}{4}g$

Name: _____

What is the simplified form of each expression?

____ 75. $\frac{1}{3}(21m + 27)$

a. $63m + 9$
b. $7m + 9$
c. $7m + 81$
d. $7m + 27$

____ 76. $(2 - 9c)(-8)$

a. $-16 + 72c$
b. $16 + 72c$
c. $-16 - 72c$
d. $16 - 72c$

What sum or difference is equivalent to the expression?

____ 77. $\frac{3x + 2}{8}$

a. $\frac{3}{8}x + \frac{1}{4}$
b. $\frac{1}{4}x + \frac{3}{8}$
c. $\frac{5}{8}x$
d. $\frac{1}{4}$

What is the simplified form of each expression?

____ 78. $-(8d - 3w)$

a. $8d - 3w$
b. $-8d + 3w$
c. $8d + 3w$
d. $-8d - 3w$

____ 79. Simplify the expression $6ab + 3ab - 7ab$. What is the coefficient of the simplified expression?

a. a
b. ab
c. 2
d. b

What inequality represents the verbal expression?

____ 80. all real numbers greater than or equal to 67

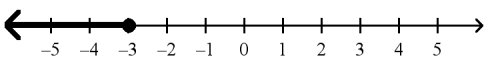
a. $x \geq 67$
b. $x < 67$
c. $x \leq 67$
d. $x > 67$

____ 81. 8 less than a number n is less than 11

a. $11 - 8 < n$
b. $n - 8 < 11$
c. $8 - n < 11$
d. $11 < 8 - n$

What is the graph of the inequality?

____ 82. $x \geq -3$

a.


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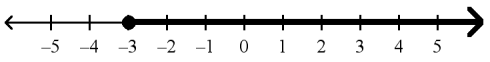
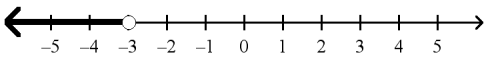
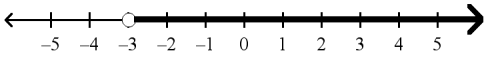
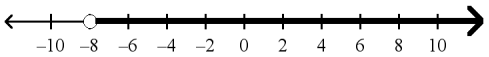


c.


d.


Name: _____

What inequality represents the graph?

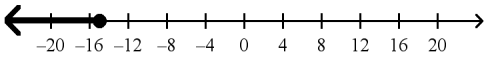
____ 83. 

a. $x \le -8$ b. $x < -8$ c. $x > -8$ d. $x < 8$

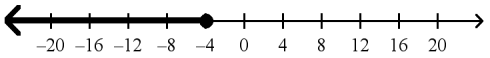
What are the solutions of the inequality? Graph the solutions.

____ 84. $x - 3 \le -12$

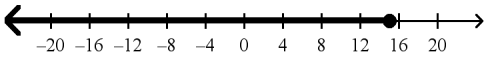
a. $x \le -15$



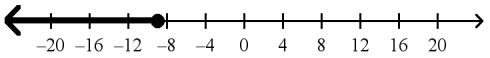
b. $x \le \dfrac{-12}{3}$



c. $x \le 15$

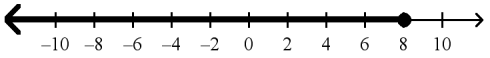


d. $x \le -9$

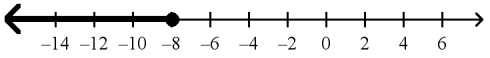


____ 85. $y - 6 \le 2$

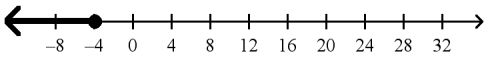
a. $y \le 8$



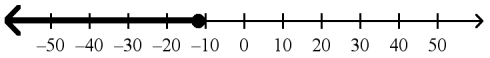
b. $y \le -8$



c. $y \le -4$



d. $y \le -12$

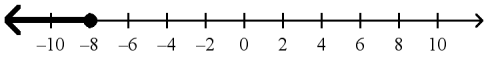


Name: _____

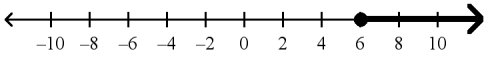
What are the solutions of the inequality? Graph and check the solutions.

____ 86. $-\frac{x}{4} \le 2$

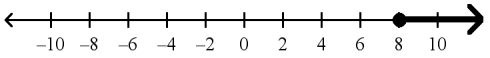
a. $x \le -8$



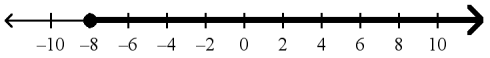
b. $x \le 6$



c. $x \ge 8$



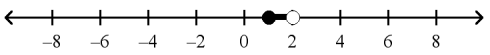
d. $x \ge -8$



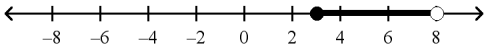
What are the solutions of the compound inequality? Graph the solutions.

____ 87. $-2 \le 2x - 4 < 8$

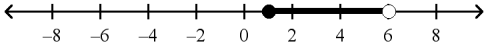
a. $1 \le x < 2$



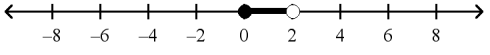
b. $3 \le x < 8$



c. $1 \le x < 6$



d. $0 \le x < 2$

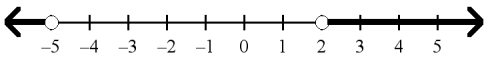


Name: _____

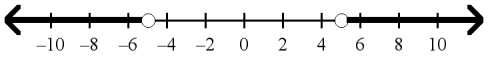
What are the solutions of the compound inequality? Graph the solutions.

____ 88. $2x - 2 < -12$ or $2x + 3 > 7$

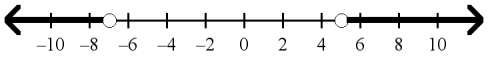
a. $x < -5$ or $x > 2$



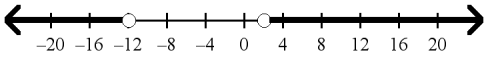
b. $x < -5$ or $x > 5$



c. $x < -7$ or $x > 5$

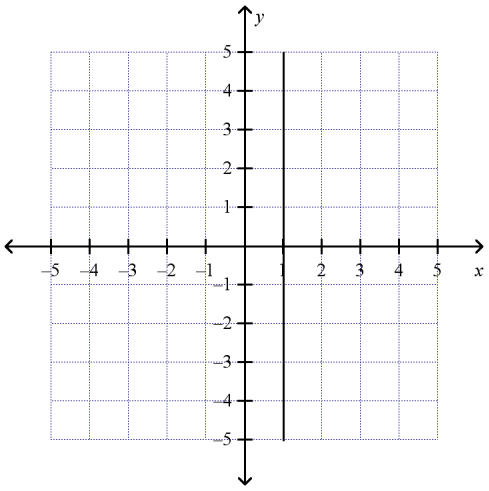


d. $x < -12$ or $x > 2$



What is the slope of the line?

____ 89.



a. 0

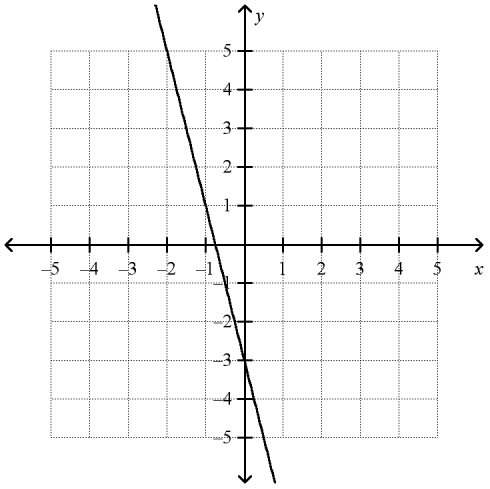
b. undefined

Name: _____

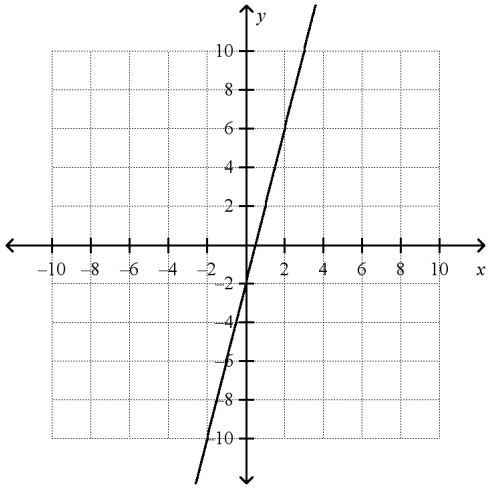
Graph the equation.

____ 90. $y = 4x - 3$

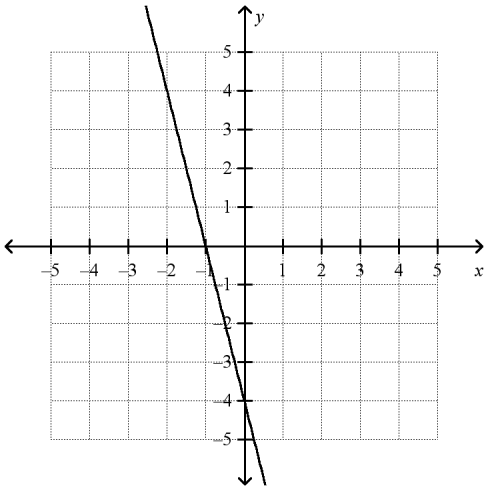
a.



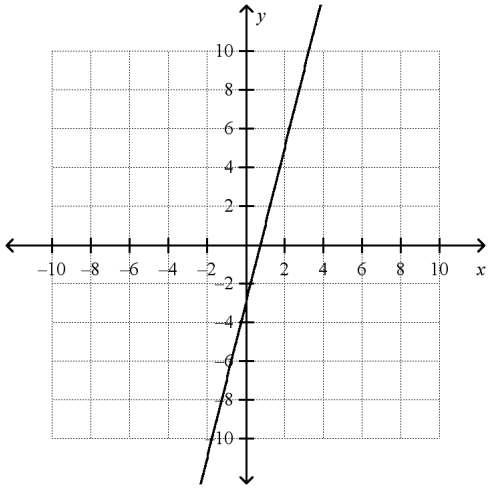
c.



b.



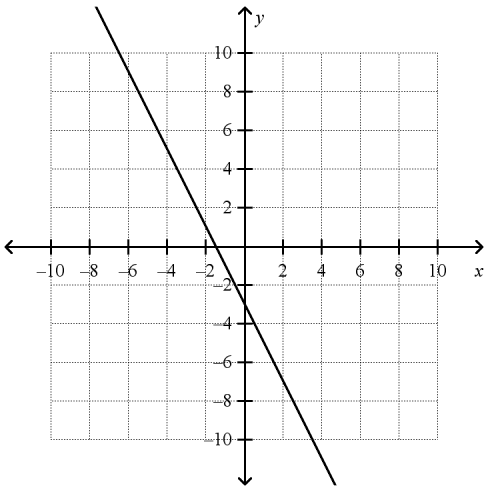
d.



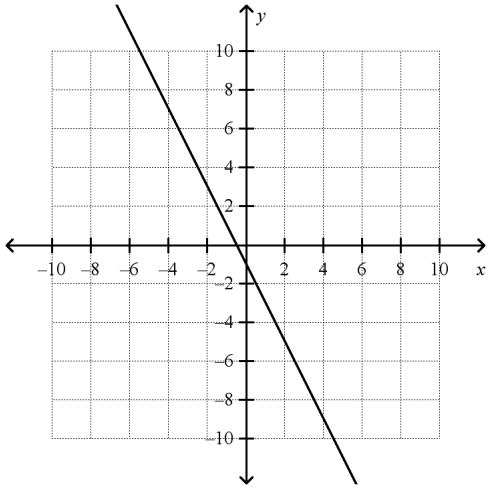
Name: _____

____ 91. $y = -2x - 3$

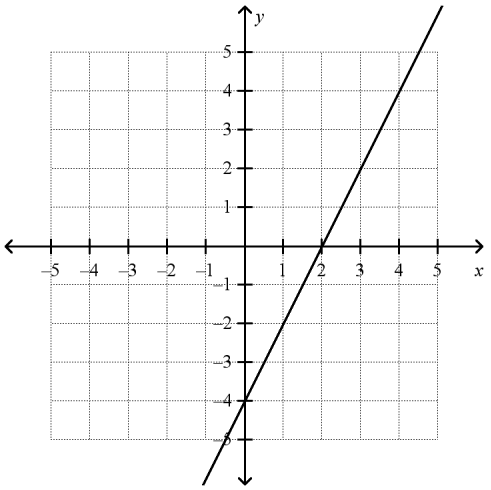
a.



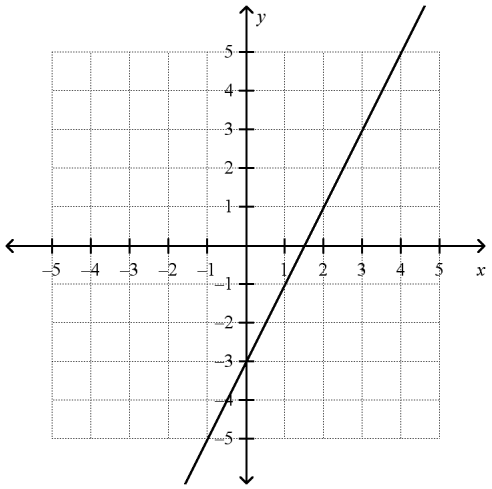
c.



b.



d.

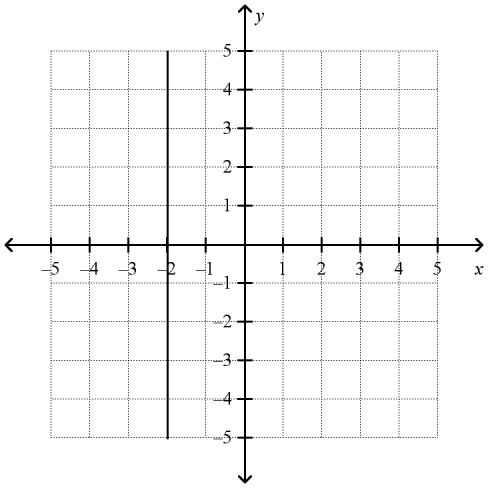


Name: _____

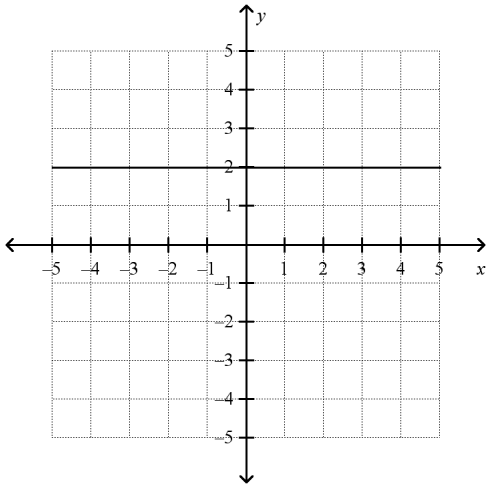
What is the graph of the equation?

____ 92. $y = -2$

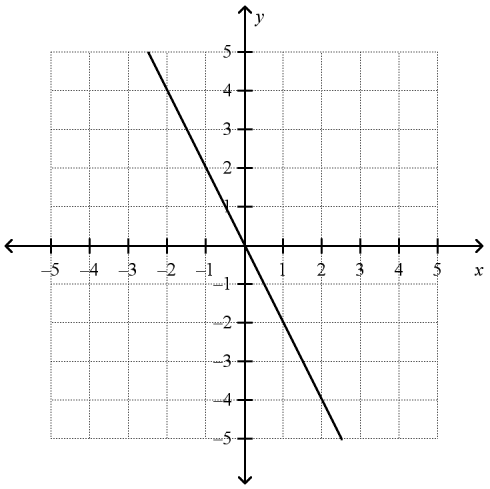
a.



c.



b.



d.