

Welcome to 8th grade Algebra I Honors!!

This packet contains fun



GO MATH!!!

and exciting



problem solving

opportunities to keep you motivated and to keep your brain



from turning to mush



over the summer. Complete five or six problems a week



while you are enjoying

your vacation .



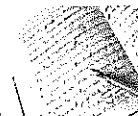
For each problem, all go of them, show your solutions in an organized

manner. Then, in a unique and clever way

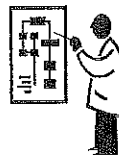


, show your understanding of the review

packet. You may want to write an essay or a poem showing your understanding.



How about a concept map or graphic organizer?



Make up a rap song!



Like drawing?



Come up with a comic strip or picture.

Whatever you decide, have fun with it! And when you come back to school in August,



bring it with you! Only then will you be able to reap the rewards of all of



your hard

work. Good Luck! Have a great summer!!! See you in August!

With exponential regards, The Seacrest Math Team!!



Name: _____

Pre-Algebra Summer Review

Instructions:

On a separate sheet of paper,

1. Number each problem and *show all work*. Work must be shown in order to receive credit.
2. Do all computations by hand except for problems where the instructions say you may use a calculator.

Remember that your separate paper will be collected and checked in the fall, so please be sure that your work is organized and legible.

Multiple Choice

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

- _____ 1. To print tickets, a printer charges a \$70 setup fee plus \$0.75 per ticket. Write an algebraic expression for the cost of t tickets. What is the cost of 600 tickets?
- a. $0.75t + 70$; \$520.00 c. $0.75t - 70$; \$520.00
b. $0.75t - 70$; \$380.00 d. $0.75t + 70$; \$450.00
- _____ 2. Simplify $|-15|$.
- a. 15 b. $|15|$ c. $-|15|$ d. -15

Compare. Use $>$, $<$, or $=$ to complete the statement.

- _____ 3. $|-1|$ $|0|$
- a. $<$ b. $=$ c. $>$

Find the sum.

- _____ 4. $122 + (-1) + (-101) + (-115)$
- a. -93 b. 107 c. -95 d. 135

Use the Distributive Property to multiply.

- _____ 5. $5(2t - 5)$
- a. $10t - 5$ b. $7t - 25$ c. $10t - 25$ d. $-15t$
- _____ 6. Name the coefficients in the expression $4x + 9 - y$.
- a. 4, 9, 0 b. 4, -1 c. 4 d. 9
- _____ 7. Name the like terms in the expression $5a + 8 - 3a + 11$.
- a. $5a, 8$ b. 8, 11 c. $5a, -3a$ d. $5a, 3a$
- _____ 8. Name the constant(s) in the expression $7x + 9y + 3$.
- a. x and y b. 7 c. 9 d. 3

- _____ 9. The number of patients treated at Dr. McCormick's dentist office each day was recorded for nine days. These are the data: 20, 9, 8, 17, 19, 16, 13, 14, 8. Find the mean, median, and mode of the data. If necessary, round to the nearest tenth. (*You may use a calculator.*)
 a. 14, 11.8, 8 b. 11.8, 14, 8 c. 13.8, 8, 14 d. 13.8, 14, 8
- _____ 10. The Johnsons framed a family picture to hang on the wall. The perimeter of the frame is 72 inches. Use the formula $P = 2l + 2w$ to find the length of the frame if the width is 14 inches.
 a. 25 in. b. 23 in. c. 22 in. d. 21 in.
- _____ 11. You buy a shirt that costs \$9.95. With tax, you pay \$10.65. Write and solve an equation to find the amount of tax you paid. Let x represent the tax.
 a. $9.95 - x = 10.65$; \$0.70 c. $9.95 + x = 10.65$; \$0.70
 b. $9.95 + 10.65 = x$; \$20.60 d. $10.65 - x = 9.95$; \$0.70
- _____ 12. A baseball player was at bat 428 times in one season, and had a batting average of .344. The batting average formula is $a = \frac{h}{n}$, where a is the batting average, h is the number of hits, and n is the number of times at bat. Use the formula to find the number of hits the baseball player made. *You may use a calculator.*
 a. 135 hits b. 128 hits c. 144 hits d. 147 hits

Write using exponents.

- _____ 13. $(x)(x)(x)(x)(y)(y)$
 a. x^4y^2 c. x^2y^4
 b. x^4y^4 d. x^2y^2

Evaluate.

- _____ 14. $3x^2 - 4$ for $x = 3$
 a. 15 b. 23 c. 77 d. -31
- _____ 15. $\frac{zb}{z+b}$ for $z = 4$ and $b = 1$
 a. 1.33 b. 1 c. 0.8 d. 4

State whether the number is prime, composite, or neither.

- _____ 16. 91
 a. prime b. composite c. neither
- _____ 17. What is the prime factorization of 180?
 a. $2^2 \cdot 3^2 \cdot 5$ b. $4 \cdot 9 \cdot 5$ c. $36 \cdot 5$ d. $2 \cdot 3 \cdot 5$

Find the GCF.

- _____ 18. $18x^3$ and $30x^5$
a. $90x^3$ b. $6x^5$ c. $90x^5$ d. $6x^3$
- _____ 19. Which fraction is *not* equivalent to $\frac{8}{10}$?
a. $\frac{4}{5}$ b. $\frac{16}{20}$ c. $\frac{8}{10}$ d. $\frac{-8}{-10}$
- _____ 20. Write $\frac{12gh}{36g^2h^3}$ in simplest form.
a. $\frac{1}{3h^2}$ b. $\frac{1}{3}gh$ c. $\frac{1}{2gh^2}$ d. $\frac{1}{3gh^2}$

Evaluate. Write in simplest form.

- _____ 21. $\frac{6-b}{3a}$ for $a = 10, b = -9$
a. $\frac{1}{10}$ b. $-\frac{3}{10}$ c. 2 d. $\frac{1}{2}$

Simplify the expression.

- _____ 22. $x^7 \cdot y^3 \cdot x^8 \cdot y^2$
a. $x^{15} \cdot y^5$ b. $x^{15} \cdot y^6$ c. $x^{56} \cdot y^5$ d. $x^{56} \cdot y^6$
- _____ 23. $-7x^3 \cdot 8x^2$
a. $-56x^6$ b. $-15x^6$ c. $-56x^5$ d. $56x^5$
- _____ 24. $9 - 5(-7x + 5)$
a. $35x + 34$ b. $-28x + 20$ c. $35x + 14$ d. $35x - 16$
- _____ 25. $7d + 12 - 4d - 3$
a. $19d - 7$ b. $3d + 9$ c. $3d^2 + 9$ d. $12d$

Simplify the expression.

- _____ 26. $\frac{xy^4}{x^5y^4}$
a. x^{-4} b. $x^{-4}y$ c. x^4 d. $x^{-4}y^8$

Find the least common multiple.

- _____ 27. $2b^2$ and $12c^3$
a. $24bc$ b. $2bc$ c. $12b^2c^3$ d. $24b^2c^3$

Write as a decimal.

- _____ 28. $2\frac{5}{16}$
a. 0.23125 b. 0.3125 c. 2.3 d. 2.3125

Order from least to greatest.

- _____ 29. $-\frac{3}{8}, -0.6, -1.3, -\frac{1}{2}$
a. $-1.3, -0.6, -\frac{1}{2}, -\frac{3}{8}$ c. $-\frac{1}{2}, -0.6, -1.3, -\frac{3}{8}$
b. $-\frac{3}{8}, -\frac{1}{2}, -0.6, -1.3$ d. $-1.3, -\frac{3}{8}, -\frac{1}{2}, -0.6$

Write the decimal as a fraction or a mixed number in simplest form.

- _____ 30. 1.48
a. $\frac{12}{25}$ b. $\frac{37}{250}$ c. $1\frac{12}{25}$ d. $1\frac{48}{100}$

Simplify.

- _____ 31. $\frac{11}{w} - \frac{5}{w}$
a. $\frac{6}{w}$ b. $\frac{16}{w^2}$ c. $\frac{8}{w}$ d. $\frac{16}{w}$

Simplify.

- _____ 32. $-\frac{1}{3} + \frac{11}{8}$
a. $\frac{5}{12}$ b. -11 c. $\frac{10}{11}$ d. $1\frac{1}{24}$

- _____ 33. $(2n^4h^3)^4$
 a. $2nh^{28}$ b. $2nh^{11}$ c. $16n^8h^7$ d. $16n^{16}h^{12}$
- _____ 34. $16 + 4^3 \cdot 2 \div 16$
 a. 3 b. 4 c. 36 d. 24
- _____ 35. $\frac{120m^{16}}{45m^8}$
 a. $\frac{8m^2}{3}$ b. $\frac{8m^8}{3}$ c. $\frac{3}{8m^8}$ d. $\frac{8m^{24}}{3}$
- _____ 36. $\frac{6^2}{6^4}$
 a. $\frac{1}{12}$ b. 36 c. $\frac{1}{36}$ d. 6^6
- _____ 37. $\frac{3c^8}{12c^{12}}$
 a. $\frac{4}{c^4}$ b. $\frac{c^4}{4}$ c. $\frac{c^{20}}{4}$ d. $\frac{1}{4c^4}$
- _____ 38. $(x^3)^5$
 a. x^8 b. x^{15} c. x^2 d. $5x^3$
- _____ 39. $17 - 6 \cdot 10 \div 2 + 12$
 a. 27.8 b. 59 c. 67 d. -1
- _____ 40. $[2 \cdot (10 + 5)] - 5$
 a. 12.5 b. 20 c. 25 d. 120

Find the product. Simplify if possible.

- _____ 41. $-1\frac{3}{7} \cdot \left(-3\frac{2}{3}\right)$
 a. $3\frac{2}{7}$ b. $-5\frac{5}{21}$ c. 11 d. $5\frac{5}{21}$
- _____ 42. $\frac{4}{2a} \cdot \frac{a}{11}$
 a. $\frac{2a}{11}$ b. $\frac{2}{11a}$ c. $\frac{2}{11}$ d. $\frac{5}{13}$

Find the quotient. Simplify if possible.

___ 43. $\frac{2}{9} \div \left(-\frac{3}{27}\right)$

a. -2

b. $-\frac{2}{81}$

c. $\frac{2}{81}$

d. 2

Solve.

___ 44. $b + \frac{2}{9} = 1\frac{3}{5}$

a. $1\frac{17}{45}$

b. $\frac{3}{7}$

c. $1\frac{37}{45}$

d. $\frac{2}{15}$

___ 45. $s - 6\frac{1}{3} = 10\frac{5}{9}$

a. $4\frac{1}{2}$

b. $16\frac{8}{9}$

c. $16\frac{4}{27}$

d. $16\frac{1}{3}$

___ 46. $6a = \frac{5}{7}$

a. $\frac{5}{13}$

b. $\frac{30}{7}$

c. $\frac{5}{42}$

d. $\frac{11}{7}$

___ 47. $-\frac{2}{6}p = \frac{3}{5}$

a. $-1\frac{4}{5}$

b. $-\frac{3}{10}$

c. $2\frac{4}{5}$

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

___ 48. $3\frac{3}{5}t = -4\frac{1}{2}$

a. $-2\frac{1}{22}$

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

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

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

Write the ratio as a fraction in simplest form.

___ 49. $30 : 48$

a. $\frac{1}{6}$

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

c. $\frac{30}{48}$

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

___ 50. Grace and Jamal each bought notebooks for school. Grace bought 3 notebooks for \$3.90 while Jamal bought 2 notebooks for \$2.20. What was the unit price of each student's notebooks?

a. Grace: \$3.90; Jamal: \$2.20

c. Grace: \$1.10; Jamal: \$1.30

b. Grace: \$1.30; Jamal: \$1.10

d. Grace: \$3.00; Jamal: \$2.00

51. Convert 50 mi/h to feet per minute.
a. 4,400 ft/min b. 3,000 ft/min c. 1,200 ft/min d. 6,636 ft/min

Solve the proportion.

52. $\frac{4}{21} = \frac{x}{168}$
a. 882 b. 8 c. 84 d. 32
53. Write a proportion that can be used to find the cost of 10 notebooks if 3 notebooks cost \$1.98.
a. $\frac{3}{10} = \frac{n}{\$1.98}$ c. $\frac{10}{3} = \frac{\$1.98}{n}$
b. $\frac{10}{\$1.98} = \frac{n}{3}$ d. $\frac{3}{\$1.98} = \frac{10}{n}$
54. At the school store, 6 pencils sell for \$.99. At this rate, what is the cost of 16 pencils?
a. \$2.64 b. \$3.79 c. \$2.98 d. \$1.65
55. A building 50 ft high casts a 75-ft shadow. Sarah casts a 6-ft shadow. The triangle formed by the building and its shadow is similar to the triangle formed by Sarah and her shadow. How tall is Sarah?
a. 4 ft b. 5 ft c. 3 ft d. not here
56. Emma already has read 11 of 20 books on her summer reading list. What percent of the books on her list has she read already?
a. 35.5% b. 0.6% c. 181.8% d. 55.0%
57. 11 is 40% of what number?
a. 27.5 b. 0.3 c. 440.0 d. 4.4

Write the percent as a fraction or mixed number in simplest form.

58. 126%
a. $12\frac{3}{5}$ b. $1\frac{13}{50}$ c. $7\frac{2}{5}$ d. $\frac{37}{50}$

Write the decimal as a percent.

59. 1.438
a. 143.8% b. 1,438% c. 0.1438% d. 14.38%

Write the fraction as a percent. Round to the nearest tenth of a percent if necessary.

60. $\frac{1}{7}$
a. 14.3% b. 7% c. 1% d. 1.43%

Write an equation and solve. Round to the nearest tenth where necessary. *You may use a calculator.*

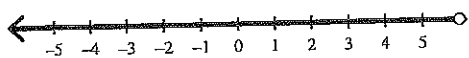
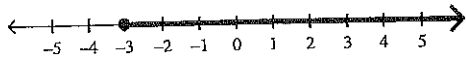
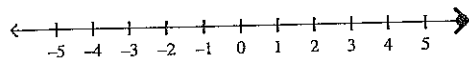
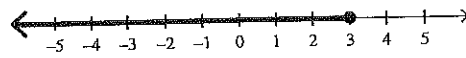
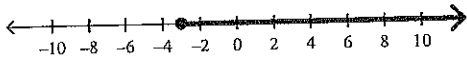
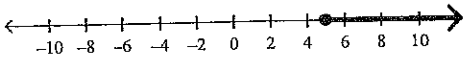
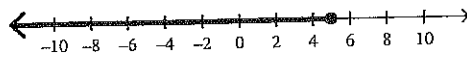
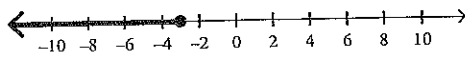
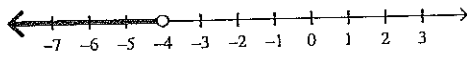
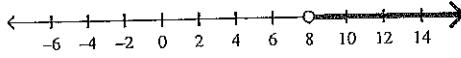
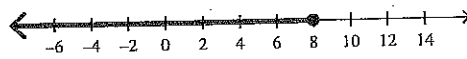
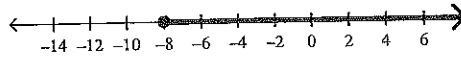
61. What is 35% of 63?
 a. $n \cdot 0.35 = 63$; 180
 b. $n = 35 \cdot 0.63$; 22.05
 c. $n = 35 \cdot 63$; 2,205
 d. $n = 0.35 \cdot 63$; 22.05
62. 64 is 80% of what?
 a. $64 \cdot n = 80$; 0.8
 b. $0.64 \cdot n = 80$; 125
 c. $60 = 0.80 \cdot n$; 80
 d. $80 = 64 \cdot n$; 1.3
63. Find the percent of increase from 340 to 510. Round to the nearest tenth of a percent if necessary.
 a. 66.7% b. 50% c. 0.5% d. 33.3%
64. A sporting goods store pays \$180 for a rubber raft. The percent of markup is 30%. Find the raft's selling price.
 a. \$234 b. \$600 c. \$126 d. \$54

Solve the equation.

65. $-14 + 2x = -10$
 a. -12 b. 2 c. -14 d. -5
66. $\frac{x}{-3} - 12 = 10$
 a. -3 b. -66 c. 6 d. -30
67. $6 = 2(x + 8) - 5x$
 a. $\frac{2}{3}$ b. $3\frac{1}{3}$ c. $-\frac{2}{3}$ d. $-3\frac{1}{3}$
68. $-\frac{1}{2}m - 5 = 9$
 a. -28 b. -7 c. -18 d. -8
69. $\frac{1}{8}y - 7 = \frac{1}{2}$
 a. -52 b. 4 c. 60 d. -7
70. $3x + 7 = -6x - 2$
 a. 0 b. -9 c. 9 d. -1
71. $x + 9 = 5(4x - 2)$
 a. $\frac{11}{19}$ b. -1 c. 1 d. $-\frac{1}{19}$
72. $2.5 = d - (-20)$
 a. 22.5 b. -17.5 c. 17.5 d. -22.5

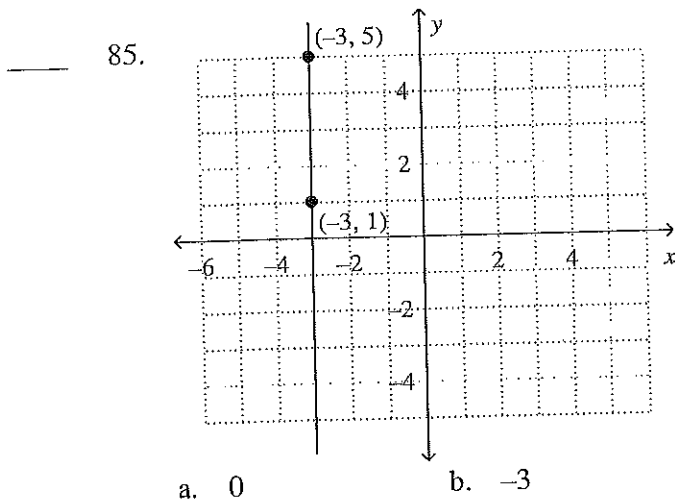
73. $\frac{m}{-4} = -2.95$
 a. 1.05 b. 0.74 c. -6.95 d. 11.8
74. $n - 40 - 26 = -35$
 a. -31 b. -101 c. -21 d. 31
75. The fare for riding in a taxi is a \$3 fixed charge and \$0.80 per mile. The fare for a ride of d miles is \$6.75. Write an equation to find d .
 a. $3(6.75 + d) = 3$ c. $3 + 0.80d = 6.75$
 b. $0.80 + 3d = 6.75$ d. $(0.80 + 6.75)d = 3$
76. The sum of three consecutive integers is 114. Write and solve an equation to find the integers.
 a. 39, 40, 41 b. 37, 38, 39 c. 38, 39, 40 d. 36, 37, 38

Solve and graph the inequality.

77. $3m + 9 \leq 18$
 a. $m \leq 6$ c. $m \geq -3$
-  
- b. $m \geq 6$ d. $m \leq 3$
-  
78. $-x - 3x \leq -20$
 a. $x \geq -3$ c. $x \geq 5$
-  
- b. $x \leq 5$ d. $x \leq -3$
-  
79. $\frac{x}{4} - 6 \geq -8$
 a. $x < -4$ c. $x > 8$
-  
- b. $x \leq 8$ d. $x \geq -8$
-  
80. Solve the volume formula $V = lwh$ for h .
 a. $h = Vlw$ b. $h = \frac{V}{l} + w$ c. $h = \frac{lw}{V}$ d. $h = \frac{V}{lw}$

81. Solve the perimeter formula for an isosceles triangle, $P = 2a + b$, for b .
- a. $b = \frac{P}{2a}$ b. $b = \frac{2a}{P}$ c. $b = P + 2a$ d. $b = P - 2a$
82. Jordan invested \$1000 in a savings account. The interest rate is 6% per year. Find the simple interest earned in 4 years. Then find the total of principal plus interest.
- a. \$24,000.00; \$25,000.00 c. \$262.48; \$1,262.48
 b. \$60.00; \$1,060.00 d. \$240.00; \$1,240.00
83. Find the solution of $y = -2x + 2$ for $x = -2$.
- a. $(-2, 2)$ b. $(-2, -2)$ c. $(-2, 6)$ d. $(-2, 0)$
84. Which ordered pair is a solution of the equation $5x + y = -23$?
- a. $(-3, -4)$ b. $(-5, -3)$ c. $(-4, -3)$ d. $(-3, -5)$

Find the slope of the line.



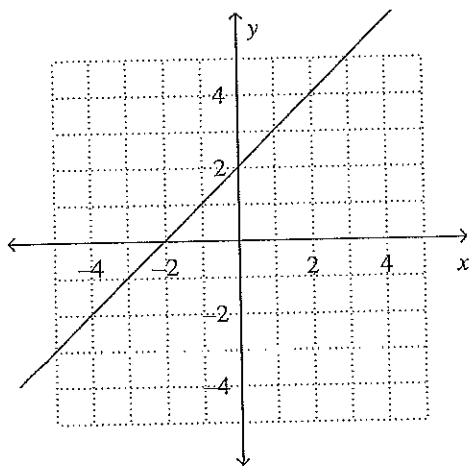
Find the slope of the line through the pair of points.

86. $F(-6, -9), K(-9, 4)$
- a. $\frac{1}{3}$ b. $-\frac{3}{13}$ c. $\frac{13}{3}$ d. $-\frac{13}{3}$

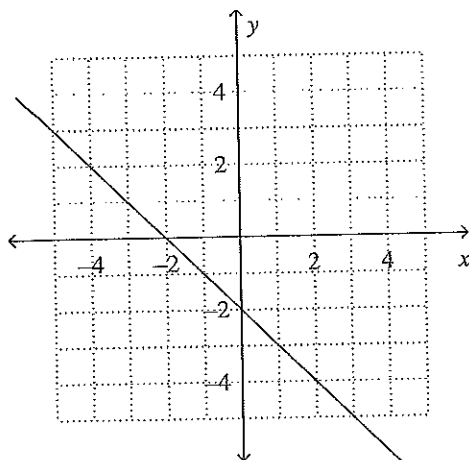
Graph the linear equation.

87. $y = x + 2$

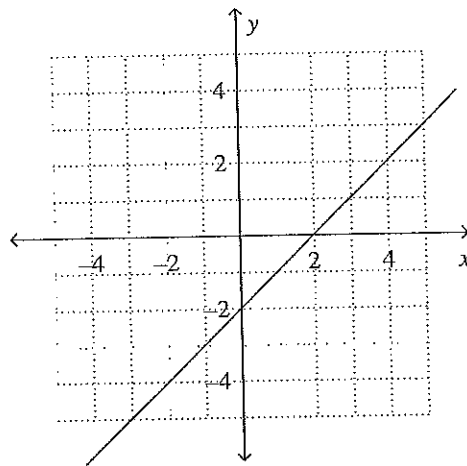
a.



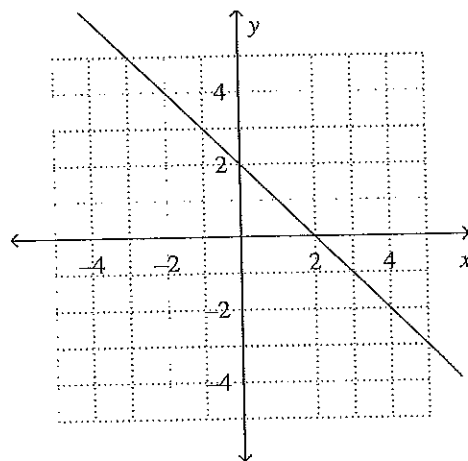
b.



c.

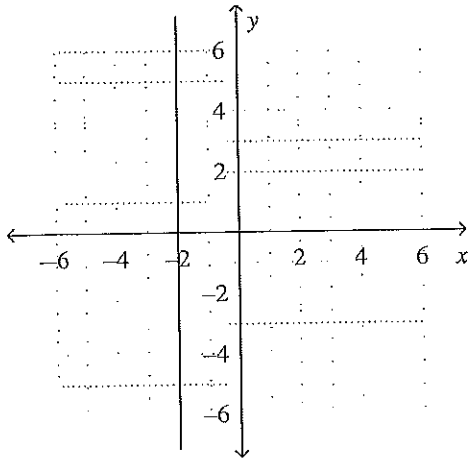


d.

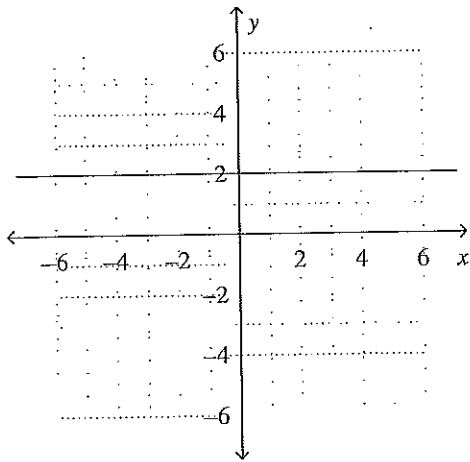


88. $y = -2$

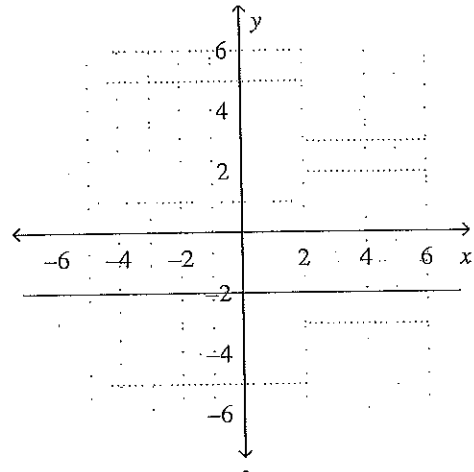
a.



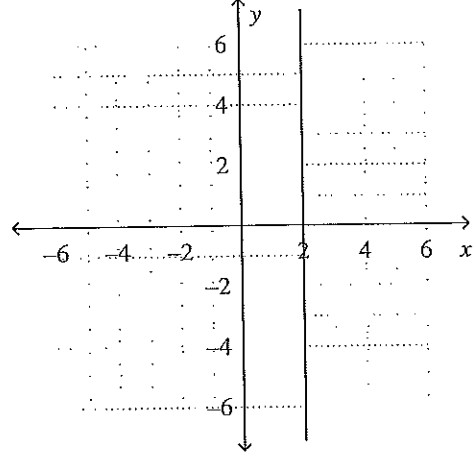
b.



c.



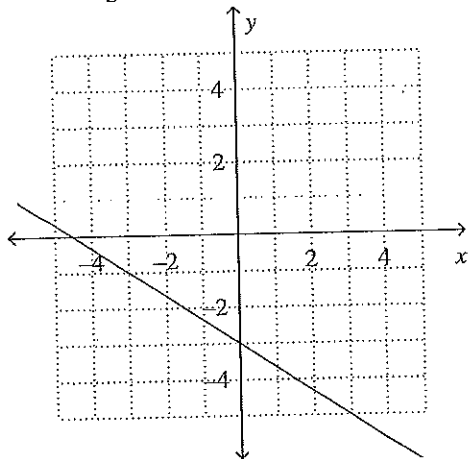
d.



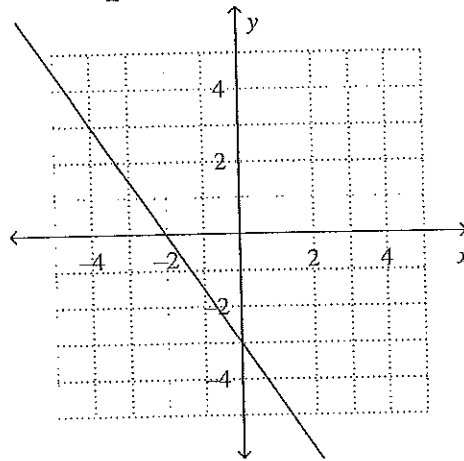
Identify the slope and y-intercept of the graph of the equation. Then graph the equation.

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

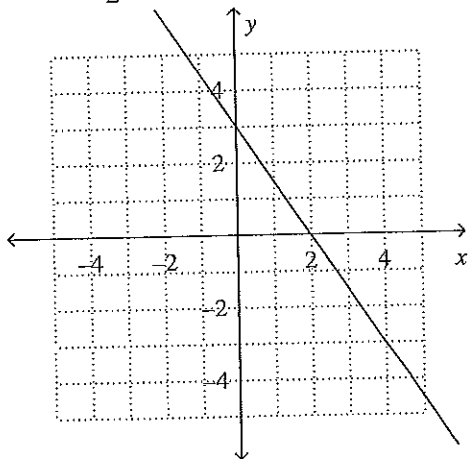
a. slope: $-\frac{2}{3}$; y-intercept: -3



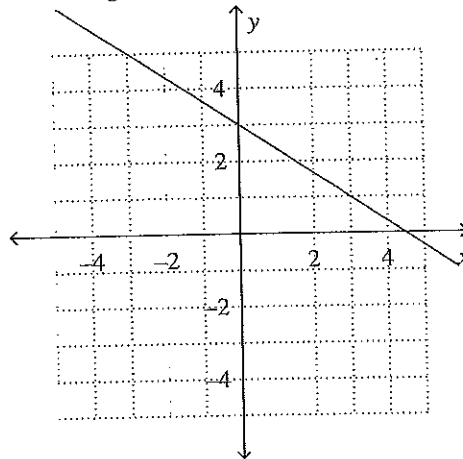
c. slope: $-\frac{3}{2}$; y-intercept: -3



b. slope: $-\frac{3}{2}$; y-intercept: 3



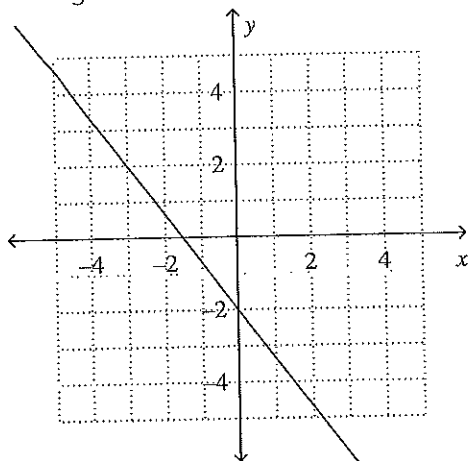
d. slope: $-\frac{2}{3}$; y-intercept: 3



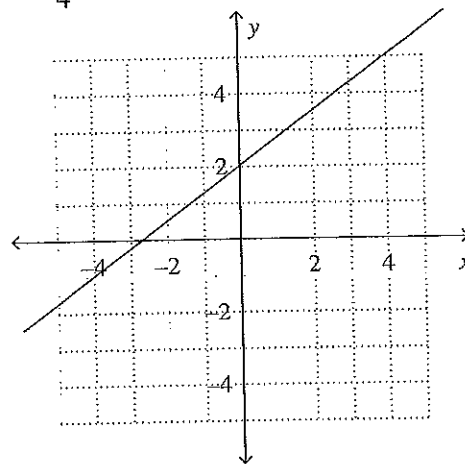
Solve the equation for y . Then graph the equation.

90. $-4x - 3y = 6$

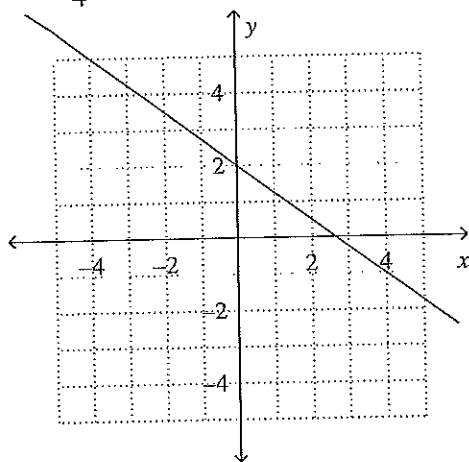
a. $y = -\frac{4}{3}x - 2$



c. $y = \frac{3}{4}x + 2$



b. $y = -\frac{3}{4}x + 2$



d. $y = \frac{4}{3}x - 2$

