

Simplify. Write as an improper fraction. Show all work for credit.

1. $\frac{11}{5} + \frac{7}{3} =$

2. $\frac{8}{7} - \frac{1}{9} =$

3. $5 - \frac{9}{4} =$

4. $\frac{6}{12} + \frac{7}{8} =$

5. $\frac{4}{5} \cdot \frac{15}{16} =$

6. $6 \cdot \frac{4}{9} =$

7. $12 \div \frac{1}{4} =$

8. $\frac{9}{8} \div \frac{3}{8} =$

9. Maria ate $\frac{2}{3}$ of a pizza that had 12 pieces. How many pieces did Maria eat?

10. George rode his bike $1\frac{3}{4}$ of a mile to the store. He then rode his bike $2\frac{1}{2}$ miles to his friend's house. How far did he ride altogether?

11. Steve walked $3\frac{1}{4}$ miles on Tuesday and $4\frac{2}{3}$ miles on Thursday. How many more miles did he walk on Thursday than Tuesday?

Find the missing number.

12. $\frac{10}{15} = \frac{x}{60}$

13. $\frac{4}{15} = \frac{20}{x}$

14. 12 out of 13 boys in a group like hamburgers. If the number of boys in the group increased to 65, how many would you expect to like hamburgers?

15. 4 out of 5 doctors recommend at least 30 minutes of exercise a day. A total of 80 doctors recommend 30 minutes of exercise a day. How many doctors did they interview altogether?

Write the following as a decimal.

16. $\frac{19}{20}$

17. $1\frac{1}{50}$

18. Robert came in first for $\frac{3}{4}$ of his races. Express the fraction as a decimal.

Write the fraction as a decimal. State whether the decimal is terminating or repeating.

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

20. $\frac{2}{7}$

Solve the following.

21. $w + \frac{1}{5} = \frac{7}{8}$

22. $h + \frac{3}{8} = -\frac{1}{4}$

23. $15\frac{3}{4} = t + 4\frac{5}{8}$

24. $6a = \frac{5}{7}$

25. $\frac{3}{7}h = 9$

26. $\frac{2}{7}a = \frac{8}{5}$

27. $-\frac{1}{3}p = \frac{3}{5}$

28. Mr. Smith needs a shelf to hold a set of textbooks, each $1\frac{1}{4}$ in. wide. How many books will fit on a 35 in. long shelf?

29. You have a 90 lb. calf you are raising for a 4-H project. You expect the calf to gain 65 lbs. per month. In how many months will the animal weigh 1000 lbs.?

30. A student works at a job which pays \$6 per hour. This week the student also received a bonus of \$50. If the total pay for the week was \$284, how many hours did the student work?

Simplify each expression.

31. $-14 + 22$

32. $-55 - 18$

33. $65 - 119$

34. $13 - (-34)$

35. $-12 \cdot 4$

36. $-16 \cdot (-3)$

37. $\frac{-72}{8}$

38. $\frac{4+6}{5}$

39. Angus Burgers had the following profits and losses over a 3-month period were: July: $-\$3,515$; August: $-\$5,674$, September $\$8993$. What was the companies' overall profit or loss?

40. An airplane descends at a velocity of -14 in/sec. Find the vertical distance traveled in 7.5 seconds?

Solve the equation.

41. $2x - 26 = 10$

42. $-6 + 3x = -9$

43. $\frac{x}{5} + 9 = 4$

44. $-3x + 6 = -9$

45. $x + 7 = 6x - 3$

46. $x - 9 = -6x + 5$

47. $-6p - 21 = 3p - 12$

48. $\frac{1}{4}y - 3 = 9$

49. Four friends dining in a restaurant decide to split the bill evenly between them. Each person will pay \$9.45. How much is the total bill?

50. A family is going to Disneyland, the family pack of tickets costs \$348.00 for a total of four people. If each person can go for 3 days, how much does it cost each person per day to go?

51. A rental store will rent a lawn mower for \$6 per hour with a \$10 rental fee, or it can be rented for \$46 per day, with no rental fee. Under what circumstance would it be better to rent per hour?

Simplify the expression.

52. 3^3

53. $(-6)^2$

54. 1^4

55. 2^5

56. The floor of a room is 14 feet long by 14 feet wide. How many square feet of a carpet are needed to cover the floor?

Evaluate the expression.

57. $x - 4$, when $x = -1$

58. $-x + 6$, when $x = 9$

59. $x^2 + 3$, when $x = 5$

60. $-x^2 - 1$, when $x = 4$

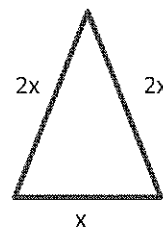
61. $-x^2 + x$, when $x = -2$

62. $\frac{x-5}{x}$, when $x = 10$

63. $\sqrt{x} + 2\sqrt{y} + 3\sqrt{xy}$, when $x = 4$, $y = 9$

64. $2[x + x(3y - x)]$, when $x = 3$, $y = 2$

65. Find the perimeter of the triangle when $x = 3$



66. $3x^2 + (2y + z^3)$, when $x = 4$, $y = 5$, $z = 3$

67. $\frac{2a - b^2}{ab} + \frac{c - a}{b^2}$, when $a = 8$, $b = 4$, $c = 16$

Simplify each expression using the order of operations.

68. $-14 \div 6 \cdot 3$

69. $(8 - 2)^2 + 9$

70. $3^2 - 16 \div 2 + 1$

71. $4 \cdot 2 \div (50 - 2)$

72. $-(3)^2 + 3 - 4$

73. $-5 + 2(4 \div 8)$

74. $\frac{3^3 + 8 - 7}{2 \cdot 7}$

75. $\frac{5^2 \cdot 2}{1 + 6^2 - 12}$

76. $12 + 3[4(8 - 6) + 5(4 + 2)]$

77. $(2 + \sqrt{9})^2 + 5(\sqrt{64} - \sqrt{16})^2$

Simplify the expression using the distributive property.

78. $4(x - 2)$

79. $3(x + 5)$

80. $-(x - 7)$

81. $-5(2x + 3)$

Simplify by combining like terms.

82. $2x + 4x - 3x$

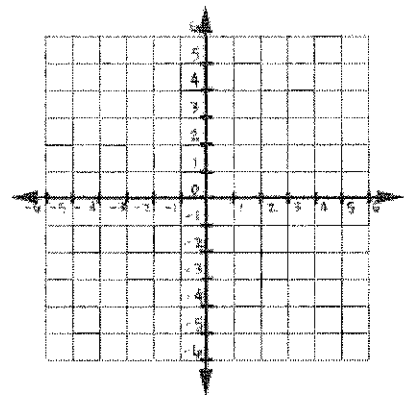
83. $-x + 2 + 8x$

84. $-3(x - 8) - 4x$

Graph the points and connect to create a line.

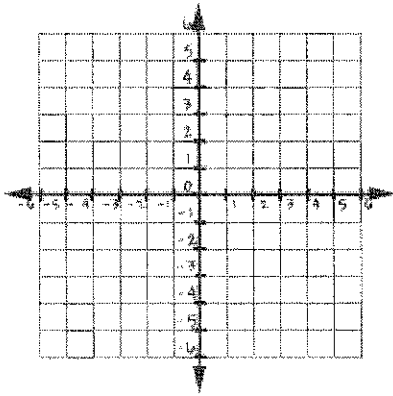
85.

| x | y |
|----|----|
| -1 | -1 |
| 0 | 1 |
| 1 | 3 |



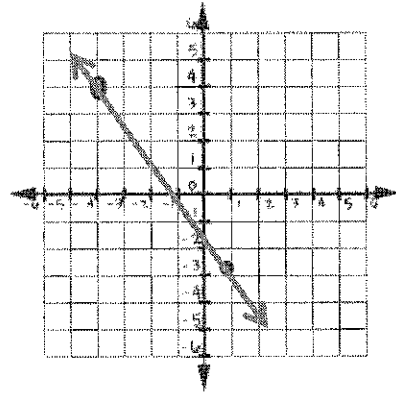
86.

| x | y |
|----|----|
| -3 | -3 |
| 0 | -4 |
| 3 | -5 |

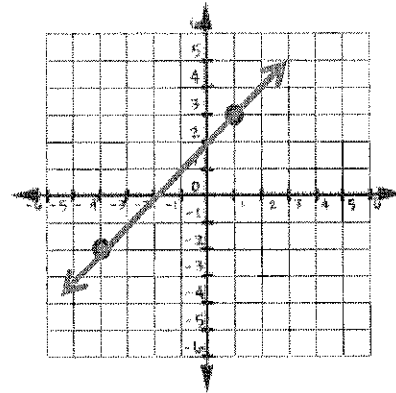


Find the slope.

89.



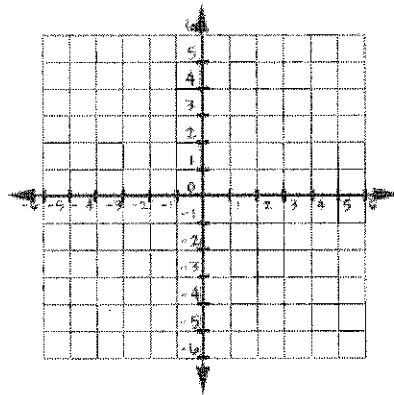
90.



Graph the equation using a table of values.

87. $y = 3x + 2$

| x | y |
|---|---|
| | |
| | |
| | |



Find the area and perimeter of the following shapes.

91. Rectangle

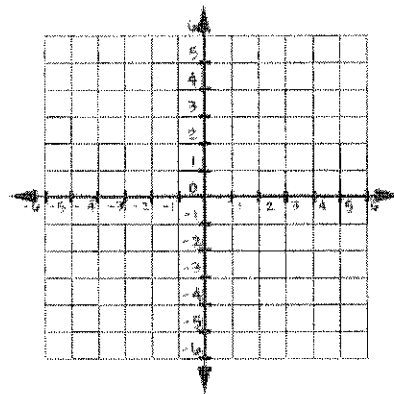


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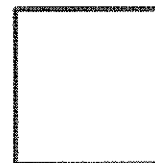
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88. $y = -x - 3$

| x | y |
|---|---|
| | |
| | |
| | |

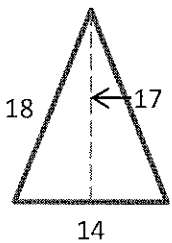


92. Square

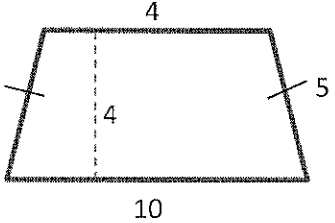


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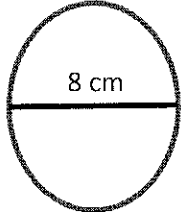
93. Isosceles Triangle



94. Trapezoid



95. Circle



Answer Key

1. $\frac{68}{15}$

2. $\frac{65}{63}$

3. $\frac{11}{4}$

4. $\frac{33}{24}$

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

6. $\frac{8}{3}$

7. $\frac{48}{1}$

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

9. 8 Pieces

10. $\frac{17}{4}$

11. $\frac{17}{12}$

12. $x = 40$

13. $x = 75$

14. 60 boys

15. 100 doctors

16. 0.95

17. 1.02

18. 0.75

19. 0.75 Terminating

20. 0.285714

Repeating

21. $w = \frac{27}{40}$

22. $h = -\frac{5}{8}$

23. $t = \frac{89}{4}$

24. $a = \frac{5}{42}$

25. $h = 21$

26. $a = \frac{28}{5}$

27. $p = -\frac{9}{5}$

28. 28 books

29. 14 months

30. 39 hours

31. 8

32. - 73

33. - 54

34. 47

35. - 48

36. 48

37. - 9

38. 2

39. - \$196

40. 105 inches

41. $x = 18$

42. $x = -1$

43. $x = -25$

44. $x = 5$

45. $x = 2$

46. $x = 2$

47. $p = -1$

48. $y = 48$

49. \$37.80

50. \$29.00

51. When renting for
less than 4 hours.

52. 27

53. 36

54. 1

55. 32

56. 196 ft²

57. -5

58. -3

59. 28

60. -17

61. -6

62. $\frac{1}{2}$

63. 26

64. 24

65. 15

66. 85

67. $\frac{1}{2}$

68. -7

69. 45

70. 2

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

72. -10

73. -4

74. 2

75. 2

76. 240

77. 105

78. $4x - 8$

79. $3x + 15$

80. $-x + 7$

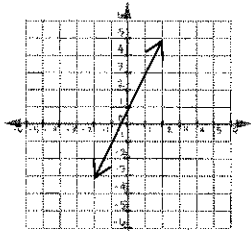
81. $-10x - 15$

82. $3x$

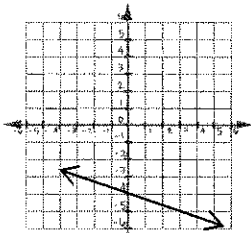
83. $7x + 2$

84. $-7x + 24$

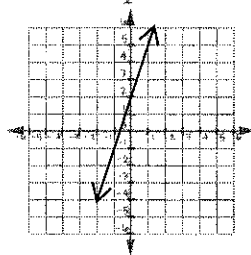
85.



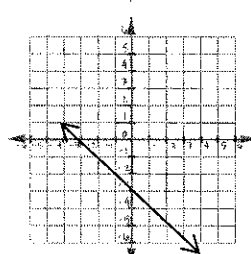
86.



87.



88.



89. $m = -\frac{7}{5}$

90. $m = 1$

91. Perimeter = 32

Area = 60

92. Perimeter = 48

Area = 144

93. Perimeter = 60

Area = 119

94. Perimeter = 24

Area = 28

95. Perimeter = 8π

Area = 16π