

Summer Assignment for Mrs. Thiers

Rising 8th grade Honors Math 2022-2023

- 1. Complete the following pages.**
- 2. Show your work near the problem if possible. If needed, you can print copies of the attached worksheet to show your work. Please label each problem/page number on the worksheet.**
- 3. Return the completed assignment to your homeroom teacher on your first day back to school next year.**
- 4. Your first math assessment next year will consist of problems from these worksheets.**

Name: _____ RISING 8th HONORS MATH

Summer Math Assignment 2022; Mrs. Thiers

Use this worksheet, if necessary, to show your work for each problem. Please label each box with the number of the math problem.

Work for Problem #:	Work for Problem #:
Work for Problem #:	Work for Problem #:
Work for Problem #:	Work for Problem #:
Work for Problem #:	Work for Problem #:
Work for Problem #:	Work for Problem #:

Name: _____

Date: _____

Answers

Evaluate the expression when $x = 3$, $y = 5$, and $z = 6$.

1. $3x - y$ 2. $(y + z)^2 - x$ 3. $\frac{2z - x}{3}$

Find the sum, difference, product, or quotient.

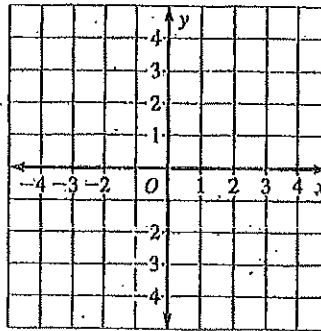
4. $42 + (-19)$ 5. $-28 - 41$ 6. $-16 - (-35)$
 7. $14(-6)$ 8. $\frac{-36}{-4}$ 9. $\frac{296}{-8}$

State the absolute value and the opposite of the number.

10. -25 11. 9 12. 87 13. -33

Plot the point in the coordinate plane. Describe the location of the point.

14. $A(-2, 3)$
 15. $B(1, 3)$
 16. $C(-4, -3)$
 17. $D(3, -1)$



Identify the property that the statement illustrates.

18. $c + 0 = c$ 19. $f(gh) = (fg)h$ 20. $x + y = y + x$

Evaluate the expression using the distributive property and mental math.

21. $5(34)$ 22. $8(7.3)$

Simplify the expression.

23. $26 + 3x - 19 + 24x$
 24. $-6(3t - 2) + 28$
 25. $7b + 4b + 17b$

Write the verbal sentence as an equation. Then tell whether 7 is a solution of the equation.

26. The difference of 14 and y is 21.
 27. The product of z and -6 is -42 .

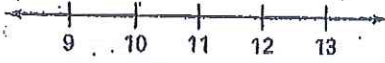

1. _____
 2. _____
 3. _____
 4. _____
 5. _____
 6. _____
 7. _____
 8. _____
 9. _____
 10. _____
 11. _____
 12. _____
 13. _____
 14. _____
 15. _____
 16. _____
 17. _____
 18. _____
 19. _____
 20. _____
 21. _____
 22. _____
 23. _____
 24. _____
 25. _____
 26. _____

Answers

Solve the equation.

28. $8n = -104$ 29. $h - 41 = -6$ 30. $-\frac{t}{5} = 15$
 31. $-3p - 7 = 5$ 32. $4(3 - 2x) = -44$ 33. $-8 = 8(4g + 3)$

Solve the inequality. Graph your solution.

34. $x - 6 \geq 5$ 
 35. $-4b - 3 \leq 13$ 

Find the greatest common factor of the monomials.

36. $6x, 9x$ 37. $5t, 15t^2$

Find the least common multiple of the monomials.

38. $8t, 24t$ 39. $6x, 12x^3$

Find the product or quotient. Write your answer using only positive exponents.

40. $u^4 \cdot u^9$ 41. $x^3 \cdot x^{-4}$ 42. $\frac{p^7}{p^2}$ 43. $\frac{t^{-6}}{t^3}$

Find the sum, difference, product, or quotient.

44. $\frac{5}{7} + \left(-\frac{6}{7}\right)$ 45. $5\frac{3}{4} - 2\frac{2}{3}$
 46. $-1\frac{1}{5} \cdot \left(6\frac{1}{2}\right)$ 47. $-8\frac{1}{3} \div \left(-4\frac{1}{6}\right)$

Solve the equation or inequality by first clearing the fractions or the decimals.

48. $\frac{1}{3}x - 4 < \frac{5}{6}$
 49. $4.2x + 3.5 = 16.1$

Solve the proportion.

50. $\frac{7}{12} = \frac{49}{w}$ 51. $\frac{9.2}{x} = \frac{2.3}{16}$

28. _____

29. _____

30. _____

31. _____

32. _____

33. _____

34. _____

35. _____

36. GCF= _____

37. GCF= _____

38. LCM= _____

39. LCM= _____

40. _____

41. _____

42. _____

43. _____

44. _____

45. _____

46. _____

47. _____

48. _____

49. _____

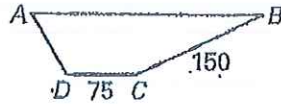
50. _____

51. _____

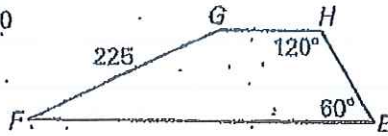
Given $ABCD \sim EFGH$, find the indicated measure.

Answers

52. $m\angle A$



53. $m\angle D$



54. GH

52. _____

53. _____

54. _____

55. Each letter in the word VACATION is written on a separate slip of paper and placed in a hat. A letter is chosen at random from the hat. What is the probability that the chosen letter is a vowel?

55. _____

56. _____

57. _____

Use a proportion or a percent equation to answer the question.

56. What percent of 360 is 126?

58. Incr or Decr?

57. 18.75 is 12.5% of what number?

% of change=

Identify the percent change as an *increase* or a *decrease*. Then find the percent of change.

58. Original: 24
New: 36

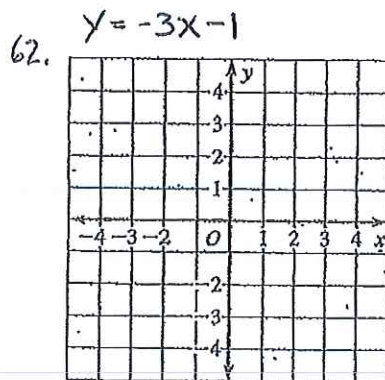
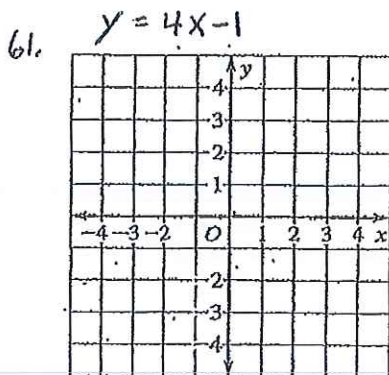
59. Original: 64
New: 112

59. Incr or Decr?

60. A spring sweater is on sale for 15% off the original price of \$35. What is the sale price of the sweater?

% of change=

Graph the equation.



60. _____

61. See left

62. See left

x	y

x	y

Let $f(x) = 5x + 4$ and $g(x) = -2x + 1$. Find the indicated value.

63. $g(4)$

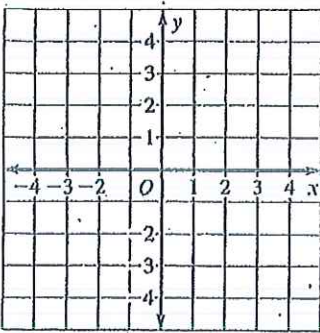
63. _____

64. x when $g(x) = 5$

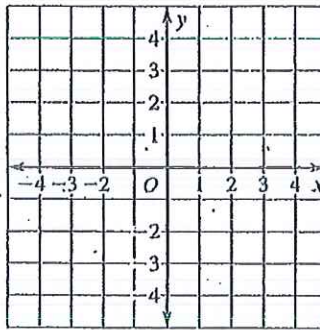
64. _____

Graph the inequality in a coordinate plane.

65. $y > -1$



66. $y \leq -x - 2$



65. See left

66. See left

67. _____

68. _____

69. _____

70. _____

71. _____

72. _____

Tell whether the angles are complementary, supplementary, or neither.

67. $m\angle 1 = 62^\circ, m\angle 2 = 118^\circ$

68. $m\angle 3 = 27^\circ, m\angle 4 = 63^\circ$

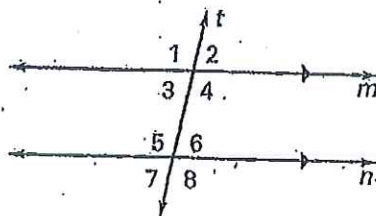
Tell whether the angles in the diagram are vertical, corresponding, alternate interior, or alternate exterior angles.

69. $\angle 1$ and $\angle 5$

70. $\angle 5$ and $\angle 8$

71. $\angle 2$ and $\angle 7$

72. $\angle 3$ and $\angle 6$



Determine whether the triangle with the given side lengths is a right triangle.

73. 9, 12, 15

74. 9, 40, 41

Answers

Find the midpoint of the segment with the given endpoints. Then find the distance between the points. Write your answer in simplest form.

75. (4, 5), (0, 7)

76. (3, 6), (-4, -2)

73. _____

74. _____

75. Midpoint (,)

Distance = _____

77. The shortest leg of a 30°-60°-90° triangle has a length of 6. Find the length of the other leg and the hypotenuse. Write your answer in simplest form.

76. Midpoint (,)

Distance = _____

The angle measures of a polygon are given. Find the value of x .

78. Quadrilateral: $x^\circ, 2x^\circ, 4x^\circ, 5x^\circ$

79. Triangle: $2x^\circ, 5x^\circ, (x + 20)^\circ$

77. _____

78. $x =$ _____

79. $x =$ _____

Find the area of the figure with the given dimensions. Use 3.14 for π . Round to the nearest whole number.

80. Parallelogram: $h = 6$ m, $b = 4.5$ m

81. Circle: $r = 19$ yd

80. $A =$ _____

81. $A =$ _____

82. $S =$ _____

Find the surface area and the volume of the solid with the given dimensions. Use 3.14 for π . Round to the nearest whole number.

82.	83.	Cylinder: $r = 11$ in., $h = 15$ in.
84.	85.	Cone: $r = 7$ cm, $h = 12$ cm

83. $V =$ _____

84. $S =$ _____

85. $x =$ _____

86. _____

87. _____

88. _____

89. _____

90. _____

91. _____

Simplify the expression. Write your answer using positive exponents.

86. $(ab)^4$ 87. $(-3y^2)^5$ 88. $(t^{-7})^4$ 89. $(x^{-6})^{-3}$

Simplify the expression.

90. $\sqrt{50b^2}$

91. $\sqrt{\frac{9r^2}{121}}$