

Name: _____
Date: _____

Rising 8HM 2025
Summer, page 1/5

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

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. -93

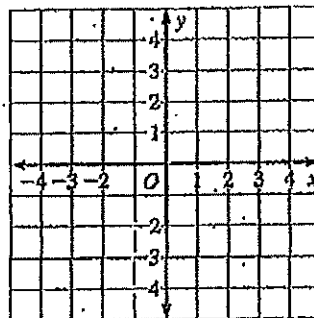
Plot the point in the coordinate plane.
Describe the location of the point.

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 .

Answers

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. _____
27. _____

Name: _____
Date: _____

Rising 8th Honors Math; Summer 2025

page 2/5

Solve the equation.

28) $8n = -104$

29) $h - 41 = -6$

30) $-\frac{t}{5} = 15$

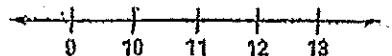
31) $-3p - 7 = 5$

32) $4(3 - 2x) = -44$

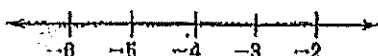
33) $-8 = 8(4g + 3)$

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) $\frac{9.2}{x} = \frac{2.3}{16}$

Answers

28. _____

29. _____

30. _____

31. _____

32. _____

33. _____

34. _____

35. _____

36. GCF(6x, 9x) = _____

37. GCF(6x, 12x³) = _____

38. LCM(8t, 24t) = _____

39. LCM(9x², 24x³) = _____

40. _____

41. _____

42. _____

43. _____

44. _____

45. _____

46. _____

47. _____

48. _____

49. _____

50. _____

51. _____

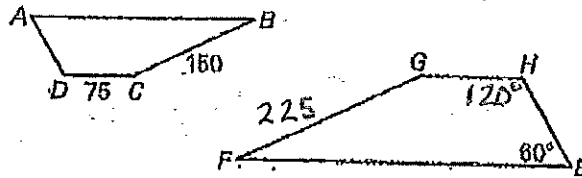
Name: _____
Date: _____

Rising 8th Honors Math; Summer 2025

page 3/5

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

- 52) $m\angle A$
53) $m\angle D$
54) GH



- 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?

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

- 56) What percent of 360 is 126?
57) 18.75 is 12.5% of what number?

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

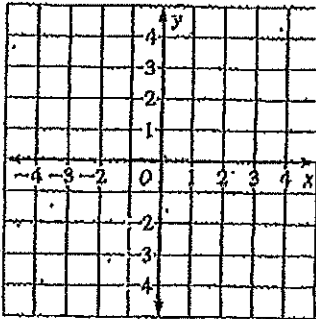
- 58) Original: 24
New: 36

- 59) Original: 64
New: 112

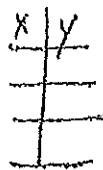
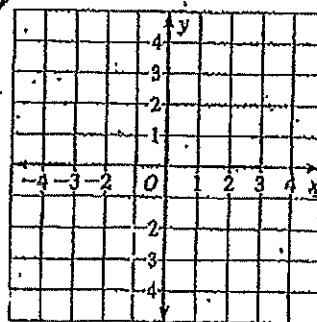
- 60) A spring sweater is on sale for 15% off the original price of \$35. What is the sale price of the sweater?

Graph the equation.

61) $y = -3x - 1$



62) $y = x + 2$



Answers

52. _____
53. _____
54. _____
55. _____
56. _____
57. _____
58. Increase or decrease
_____ % change = _____
59. Increase or decrease
_____ % change = _____
60. _____
61. _____
62. _____

Name: _____
Date: _____

Rising 8th Honors Math; Summer 2025

page 4/5

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

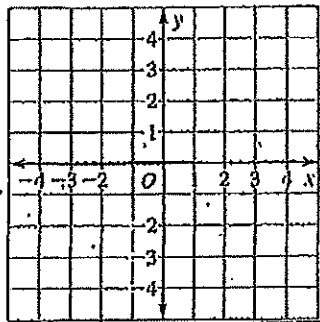
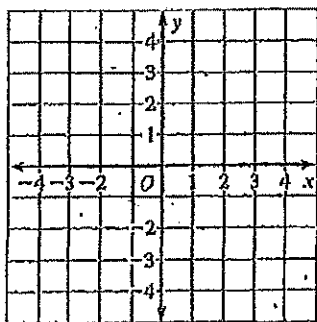
63) $f(4)$

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

Graph the inequality in a coordinate plane.

65) $y > -1$

66) $y \leq -x - 2$



Answers

63. _____

64. _____

65. _____

66. _____

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

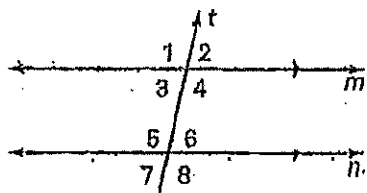
Tell whether the angles in the diagram are vertical, corresponding, alternate interior, or alternate exterior angles.

69) $\angle 1$ and $\angle 5$

70) $\angle 5$ and $\angle 8$

71) $\angle 2$ and $\angle 7$

72) $\angle 3$ and $\angle 6$



Name: _____
Date: _____

Rising 8th Honors Math; Summer 2025

page 5/5

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

73) 9, 12, 15

74) 9, 40, 41

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)

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.

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

77) Quadrilateral: x° , $2x^\circ$, $4x^\circ$, $5x^\circ$

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

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

79) Parallelogram: $h = 6$ m, $b = 4.5$ m

80) Circle: $r = 19$ yd

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.

81) Cylinder: $r = 11$ in., $h = 15$ in.

82) Cone: $r = 7$ cm, $h = 12$ cm

Simplify the expression. Write your answer using positive exponents.

83) $(ab)^4$

84) $(-3y^2)^5$

85) $(t^{-7})^4$

86) $(x^{-6})^{-3}$

Simplify the expression.

87) $\sqrt{50b^2}$

88) $\sqrt{\frac{9r^2}{121}}$

89) $\sqrt{100a^4b^2c^6}$

90) $\sqrt{\frac{49^4}{16t^2}}$

Answers

73. _____

74. _____

75. Midpoint: (,)

Distance: _____

76. Midpoint: (,)

Distance: _____

77. $X =$ _____

78. $X =$ _____

79. $A =$ _____

80. $A =$ _____

81. $S =$ _____

82. $V =$ _____

83. $S =$ _____

84. $V =$ _____

85. _____

86. _____

87. _____

88. _____