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Summer Assignment 2023 for Algebra I Students

Dear Algebra I Student:

Welcome to Algebra I, where you will review properties of real numbers and orders of operations, fractions, decimals, percentages, solving equations and inequalities, exponents, and so much more. This class will push you into mathematical maturity and prepare you for future mathematics courses.

As a student in Algebra I, you are expected to complete the summer math packet with work shown prior to the first day of fall semester of 2022. The packet can be found on the OCS website under High School -----> Documents and Forms -----> Summer 2021 Math Prep - Algebra I. Please know that you are responsible for bringing the completed packet (with work shown) to class.

You may use any of the additional resources that are provided below to supplement or relearn topics. You may ask clarification questions before a review test. Please make sure to read through every topic thoroughly and use the recommended additional resources for extra practice. Thank you so much, and I look forward to seeing you on the first day!

Video Help:
- Krista King Math
- Khan academy
- YouTube

Worksheets/practice problems:
www.ixl.com/math
www.kutasoftware.com

OCS Algebra 1 Summer Math Assignment Name_____

You must show all of your work for each problem.

Evaluate each expression.

1) $2\frac{4}{5} - 1\frac{5}{6}$

2) $4\frac{1}{3} + 4\frac{3}{8}$

Find the product.

3) $\frac{4}{5} \cdot -\frac{7}{4}$

Find the quotient.

4) $-2\frac{7}{10} \div 5\frac{1}{4}$

Write each number in scientific notation.

5) 29600

6) 0.0000411

Write each number in standard notation.

7) 3×10^{4}

8) 2×10^{-5}

Find each square root.

9) $\sqrt{121}$

10) $\sqrt{64}$

11) $\sqrt{\frac{25}{81}}$

Find each square root. Round to the nearest tenth.

12) $\sqrt{61}$

13) $\sqrt{130}$

Evaluate each expression using the Order of Operations.

14) $\frac{(-7-(-3+1))\times 3}{|-3|}$

15) $\left(\frac{3}{6-3}-(1+3)\right)\times 5$

Evaluate each using the values given.

16) $\frac{-4+3-y-(x-1)}{3}$; use $x=-1$, and $y=-2$

17) $5|2x|+y^2$; use $x=3$, and $y=1$

Write each as an algebraic expression. You may use any letter to represent the "number."

18) 13 less than n

19) 28 decreased by a number

20) the quotient of a number and 6

Simplify each expression using the Distributive Property and/or by Combining Like Terms.

21) $-8(5b+6)$

22) $-9x+3x$

23) $-7(1-6x)-2x$

24) $-6(p+9)-3$

Find the Greatest Common Factor of each set of numbers.

25) $15, 12b^2$

26) $14x^2, 10x^3$

Solve each equation. Box in your final answer.

27) $-5v+2v=-9$

28) $4+5x=-4+6x$

29) $-424=8(3+8k)$

30) $84=6(5r+3)-8r$

31) $-5x+31=4(1-8x)$

Write each as an algebraic equation, then solve it. Box in your final answer.

32) n decreased by 5 is equal to 11

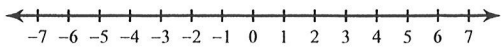
33) the quotient of v and 6 is equal to 14

34) Shayna spent \$14 on cereal. If they cost \$2 / box, how many boxes did she buy?

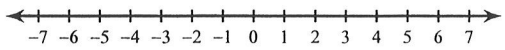
35) John paid \$9 for a salad. He now has \$29. How much money did he have before buying the salad?

Draw a graph for each inequality.

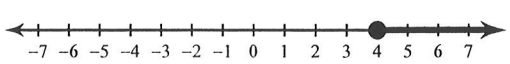
36) $a \leq 4$

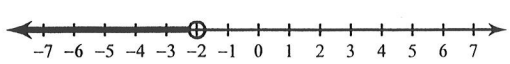


37) $x > -3$



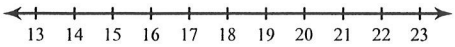
Write an inequality for each graph. You may choose any letter for your variable.

38) 

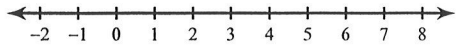
39) 

Solve each inequality and graph its solution. Box in your solution before you graph.

40) $7 + 4x \leq 71$



41) $-4 + \frac{a}{6} > -3$



Write each as an algebraic inequality. You do not need to solve it.

42) the product of y and 9 is greater than 7

43) the difference of k and 4 is less than or equal to 21

Solve each proportion. Round all decimal answers to two decimal places.

44) $\frac{6}{5} = \frac{x}{10}$

45) $\frac{7}{8} = \frac{8}{a}$

Use a proportion to answer each question and round your answer to the nearest whole number.

46) A rectangle is 4 in tall and 2 in wide. If it is enlarged to a width of 4 in, then how tall will it be?

47) If you can buy one seedless watermelon for $2, then how many can you buy with $8?

Solve each problem involving percents. Round any decimals to one decimal place.

48) 8% of 77 is what?

49) 88 is what percent of 158?

50) What percent of 113 is 86.9?

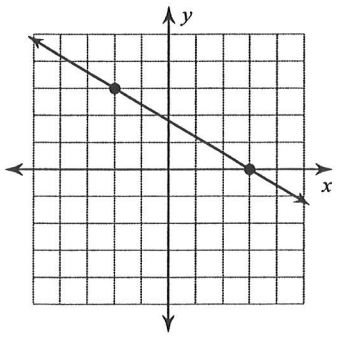
Find the selling price of each item after applying the discount and adding tax.

51) Original price of a book: $89.95
Discount: 12%
Tax: 5%

52) Original price of a pen: $1.90
Discount: 40%
Tax: 2%

Find the slope of each line. Write your answer as a reduced fraction or a whole number.

53)



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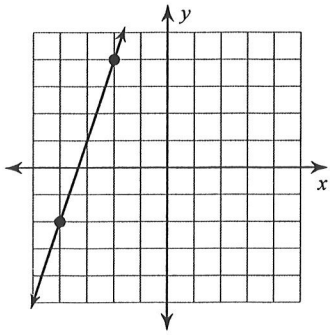

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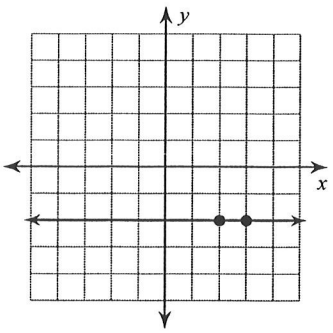


Find the slope of the line through each pair of points using the Slope Formula. Write your answer as a whole number or a reduced fraction.

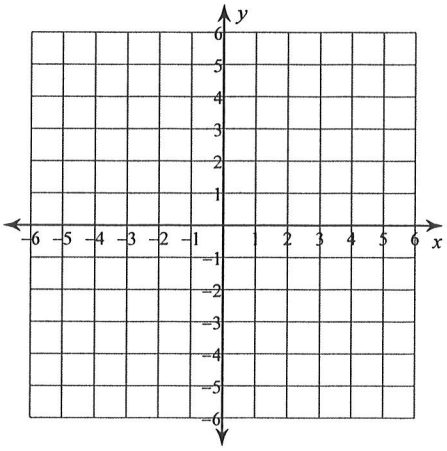
56) $(10, 4), (-17, -2)$

57) $(-13, -18), (-19, 9)$

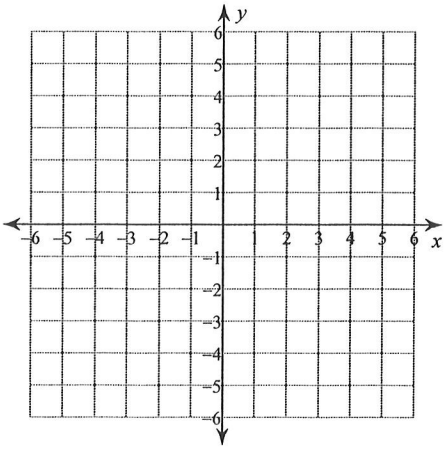
58) $(-9, -11), (-4, -11)$

Identify the slope (m) and y-intercept (b) of each equation, then sketch the graph of each line given.

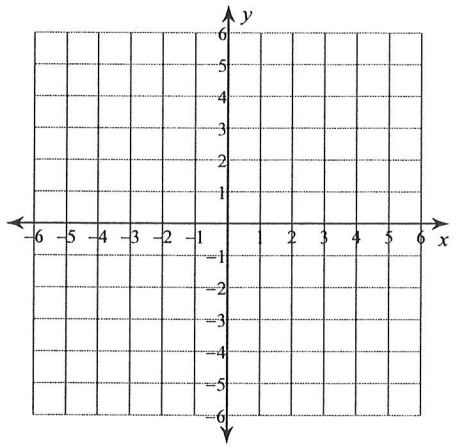
59) $y = -\frac{1}{4}x + 2$



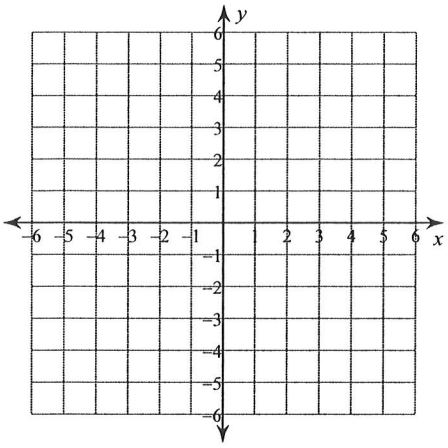
60) $y = x + 3$



61) $y = -\frac{7}{3}x - 4$

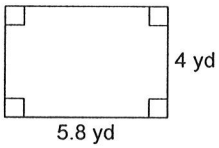


62) $x = -2$



Find the area of each figure below. Round any decimals to one decimal place.

63)



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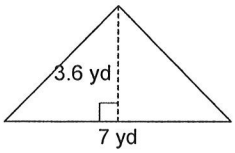

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