2024 Honors Algebra 1
Summer Packet

Name: _____   Score: _____   _____/55

To get full credit, <u>you must show work</u> for each of the problems that require you to solve. Staple your work to the back of the packet when you turn it in. This is all review material from your previous math class. If you do not remember how to solve a problem, it is your responsibility to do some research and figure out how. These are all concepts that will be built upon in Honors Algebra 1 with little time for review.

Each student should be prepared to have the summer packet completed and ready to be checked during the first full day of school. Over the course of the first few weeks of the beginning of the school year, the packet will be reviewed, and a final packet assessment will be given as the first test grade of the new school year.

Below are some helpful resources for you to refer to:
http://www.purplemath.com/modules/index.htm
https://www.khanacademy.org/math/algebra I
https://www.mathway.com/Algebra
http://www.sosmath.com/
https://photomath.net/en/
http://www.livemath.com/
https://sites.google.com/a/epsne.org/mr-smith/how-to-study-math

Identify each number as natural, whole, integer, rational, or irrational. Write all that apply.

1. -788 2. $\sqrt{5}$ 3. 8.8 4. 24 5. π

Express each fraction as a decimal.

6. $\frac{1}{3}$ 7. $\frac{3}{100}$ 8. $\frac{5}{12}$

Express each decimal as a fraction.

9. 0.38 10. 0.012 11. 2.6

Identify the correct symbol ($<, =, >$) needed to make each statement true.

12. 0.029_____0.25 13. $|12|$_____$|-12|$ 14. $\frac{2}{3}$_____0.37

Find each absolute value.

15. $|20|$ 16. $|-15|$ 17. $|-9.2|$

Simplify each expression using order of operations.

18. $5 - 3 + 2^2 \div (7 - 6)^4$

19. $\dfrac{(3)(5+7)+4}{(3)(2)+4}$

20. $2[2(5+3)^2]$

Find the answers.

21. $-4 + 8$

22. $-2 + (-7)$

23. $5 - (-13)$

24. $-16 - (-9)$

25. $8 - (-4) + 7 - 2$

26. $(-5)(12)$

27. -9^2

28. $(-9)^2$

Simplify by combining like terms.

29. $9t^2 + 7t^2$

30. $-2w + 8v - 9w - 2v$

31. $3d - 2d - 2 + d^2 - d$

Give an example of each algebraic property.

32. Inverse

33. Commutative

34. Distributive

35. Associative

36. Identity

37. Zero Product

Simplify.

38. $8x - 6(x + 12)$

39. $7(2n + 5) + 2(3n - 3)$

Express the word phrase as an algebraic expression or equation.

40. a number decreased by 7

41. Twenty-seven is one-third of a number

42. Six decreased by a number results in 3

43. The sum of three times a number and five is fifty.

Solve for the variable in each equation.

44. $x - 6 = 13$

45. $5x - 2 = 8$

46. $\frac{x}{8} = 2$

47. $-4x = 48$

48. $\frac{x}{2} + 3 = 5$

49. $6x + 3(x + 4) = 6 - 12$

50. $3b + 5 = 10$

Solve each word problem.

51. A video store charges a one-time membership fee of $12.00 plus $1.50 per video rental. How many videos can Stewart rent if he spends $21?

52. Bicycle city makes custom bicycles. They charge $160 plus $80 for each day that it takes to build the bicycle. If you have $480 to spend on your new bicycle, how many days can you take it to Bicycle City to build the bike?

53. Darel went to the mall and spent $41. He bought several t-shirts that each cost $12 and he bought 1 pair of socks for $5. How many t-shirts did Darel buy?

54. Janet weighs 20 pounds more than Anna. If the sum of their weight is 250 pounds, how much does each girl weigh?

55. The school lunch prices are changing next year. The cost of a hot lunch will increase by $0.45 from the current price. If next year's price is $2.60, what did a hot lunch cost this year?