

Name: _____

Algebra 1 Summer Packet 2017

The purpose of this summer work is to help prepare you for your upcoming Algebra 1 class. The work will tap into your prior knowledge and review past content, concepts, and skills. Our expectation is that you arrive on the first day of school able to demonstrate mastery of the material in this packet. In order to achieve this, please allow yourself plenty of time to work on the problems. Make use of all resources available to you, such as the Khan Academy website and the other resources listed below, because each problem must be worked through to completion for full credit.

Part of your Algebra 1 summer work is to complete **at least 30 minutes per week** of practice on Khan Academy. Since the summer consists of 9 weeks, students should have a **total of 270 minutes** completed on Khan Academy by the first day of school. In addition to the required Khan Academy time, students must turn in the Algebra 1 Summer Packet to Miss Hornberger by the **first day of the 2017-2018 school year (August 7, 2017)** whether you are enrolled in Algebra 1 during the fall semester or the spring semester.

Khan Academy – YOU MUST LOG IN TO HAVE KHAN ACADEMY GIVE YOU CREDIT FOR YOUR WORK.

How to Log Into Khan Academy to complete your summer work:

- If you do not have an account yet:
 1. Go to khanacademy.org
 2. Click on Sign in/Sign up
 3. Click on Create a new account.
 4. Create an Account
 5. Once you have created an account and logged in, click on Learning Home under your profile.
 6. Click coaches and enter the class code **W8Y5Z6** under Add a Coach. You are now a part of the Summer Course for Students entering Algebra 1.

Scoring/Grading:

Each Summer Math Packet is worth 5% of your overall Algebra 1 grade:

- You will be graded on the completeness of your packet.
- Each problem has a value of 2 points if totally complete.
- Any partially completed problems will earn partial credit (1 point).
- Problems left blank will earn no credit.

Directions:

- Complete each problem on all pages of the packet.
- **Complete all work neatly and organized on the packet page or on lined paper.**
- It is best that you work without a calculator to strengthen your math fact fluency.

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Order of Operations:

1. $5 + 9 \times 2$

5. $(6 \times 2) + (3 \times 2)$

2. $25 - 15 \div 3$

6. $(36 \div 4) - (3 \times 2)$

3. $2(5 + 3)$

7. $4(3 + 2) - (3 \times 2)$

4. $(25 + 5) \div 6$

8. $(12 \div 6) + 2(8 - 5)$

Rounding Numbers:

9. Round 45 to the nearest ten.

12. Round 16.8 to the nearest whole number.

10. Round 97 to the nearest hundred.

13. Round 2.65 to the nearest tenth.

11. Round 6825 to the nearest thousand.

14. Round 4.062 to the nearest hundredth.

Evaluating Algebraic Expressions:

Evaluate each algebraic expression.

15. $x + 8$ when $x = 5$

19. $\frac{d}{r}$ when $d = 240$, $r = 60$

16. $y - 7$ when $y = 12$

20. $3y + 4$ when $y = 7$

17. rt when $r = 28$, $t = 1.5$

21. $4(x - 3)$ when $x = 5$

18. $b^2 - b$ when $b = 3$

22. $2(a^2 - 6)$ when $a = 3$

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Solving Equations:

Solve for x in each problem.

23. $x + 12 = 19$

27. $2x - 5 = 11$

24. $y - 8 = 6$

28. $4x + 1 = 9$

25. $\frac{x}{6} = 4$

29. $\frac{x}{3} + 10 = 15$

26. $7x = 140$

30. $\frac{x}{7} - 4 = 2$

Inequalities:

Graph each of the following inequalities on a number line.

31. $x > 4$



34. $-2 \leq t$



32. $k \leq -6$



35. $w \leq 15$



33. $5 > y$



36. $x > -1$



Algebraic Translations:

Write an algebraic expression for each word expression.

37. a number n plus 7 _____

40. y divided by 7 _____

38. x minus 14 _____

41. 6 times w _____

39. the product of 8 and x

42. r subtract 36 _____

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Write a word expression for each algebraic expression.

43. $m - 16$ _____

44. $9z$ _____

45. $\frac{a}{4}$ _____

46. $4 + y$ _____

47. $p \div 10$ _____

48. $n + 8$ _____

Word Problems:

49. Leng's car gets 43 miles to the gallon. At this rate, how many miles can Leng drive with 18 gallons of gasoline?

50. Jani baked 231 cookies. She kept 48 for herself and divided the rest equally among three fourth grade classes. How many cookies did each class get?

51. Sky View Cinema sold 197 large cola drinks Saturday. If each large cup holds 21 fluid ounces, how many total fluid ounces of cola were sold Saturday?

52. At a price of \$4.89 per pound, what is the cost of 3.95 pounds of deluxe mixed nuts?

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53. Shauna and two friends bought a microwave oven for \$165. Three weeks later, they received a \$20 rebate check from the manufacturer. If they share all costs equally, how much did each person pay after the rebate?

54. John practices piano for 30 minutes Monday through Friday. On Saturday he practices for 45 minutes. How many minutes did John practice piano during these 6 days?

55. Stacey and three friends have agreed to share equally the cost of dinner. They had a pizza for \$13.50 and soft drinks for \$3.80. What is Stacey's share of the dinner bill?

Factoring:

List all the factors of each of the following numbers.

56.72

59.52

57.48

60.144

58.37

61.216

Prime Factorization:

Write the prime factorization for the following numbers.

62.210

64.204

63.185

65.148