

Name: _____ Date: _____ Block: _____

Algebra 1
Summer Packet 2025-2026

Directions: All work must be shown. Do not use a calculator to complete this packet. You will be assessed on this material without the use of a calculator. Leave all answers as simplified improper fractions.

For # 1 – 3, write an algebraic expression for each word phrase.

1. a number p minus 19
2. 12 more than 5 times c
3. 1 less than the quotient of a number n and 6

For # 4 – 9, simplify each expression, leave as a simplified fraction no decimals!

4. $6 \div 2 + 4 \cdot (-2)$

5. $-10 - (-2) \cdot (-4^3)$

6. $22 + (3^2 - 4^2)$

7. $(3^3 - 9)^2$

8. $5^2 \div 2$

9. $\frac{16 + 3 - 7}{2^2}$

For # 10 – 13, evaluate each expression for $a = -1$ and $b = 5$.

10. $5a - 7$

11. $-2b - a$

12. $(ab)^2$

13. $5a + 2b^2 - b^3$

For # 14 – 15, order the numbers from least to greatest, then graph the numbers on the number line.

14. $-2, 5, -18, 0, -1, 4, 9, -1.5$



15. $\frac{3}{4}, \frac{2}{3}, \frac{1}{2}, \frac{7}{8}$



For # 16 – 27, evaluate each expression.

16. $-3-8$

17. $-11+4$

18. $(-3)+(-4)$

19. $5-7+3$

20. $4-(-4)-10$

21. $\frac{3}{8}+\frac{1}{6}-\frac{2}{3}$

22. $(-4)(8)$

23. $(2)(-3)(-12)$

24. $\frac{2}{3}\cdot\frac{12}{5}$

25. $6\div\frac{1}{8}$

26. $\frac{4}{5}\div(-\frac{1}{8})$

27. $(-\frac{2}{17})(-\frac{17}{2})$

For # 28 – 33, simplify the expressions.

28. $-3(2x-6)$

29. $(4x-1)(4)$

30. $3x+7y-2x+3y$

31. $5x^2y^2-8x^2y^2$

32. $4-2(3x-8)+9x$

33. $\frac{15x+11}{5}$

For # 34 – 37, solve the equation for the unknown variable.

34. $g-(-7)=-12$

35. $-5x=45$

36. $x-15=|-25|$

37. $\frac{w-1}{4}=-3$

For # 38 – 46, solve the equation for the unknown variable.

38. $-8(b - 5) = -8b + 40$

39. $\frac{m}{120} = \frac{1}{-24}$

40. $10x - 16 = \frac{2}{3}(15x + 24)$

41. $-\frac{1}{5}x = -11$

42. $\frac{1}{2}x = \frac{2}{5}x - \frac{3}{10}$

43. $\frac{x}{-6} - 25 = -18$

44. $\frac{w+2}{5} = \frac{2w-11}{7}$

45. $8x - (2x - 4) = 12$

46. $1.34x - 8.2 = 2.62x - 4.36$

For # 47 – 48, solve for y.

47. $y - 2x = 3$

48. $-2x - 4y = -6$

49. Solve for t : $I = Prt$

50. Solve for m : $J = mL + Q$

For # 51-53, define a variable and write an equation for each situation. Then, solve.

51. You like to shovel snow in winter to earn some extra money. You charged your clients \$7 per driveway and earned \$42. How many driveways did you shovel?

52. Noah and Katie are shopping for new guitar strings in a music store. Noah buys 2 packs of strings. Katie buys 2 packs of strings and a music book. The book costs \$16. Their total cost is \$72. How much is one pack of strings?
53. A bakery sells packages of 10 bagels for \$3.70. If the bakery starts selling the bagels in packages of 12, how much would you expect a package of 12 to cost?

For # 54 – 55, convert the given amount to the given unit. Round to the nearest tenth. SHOW ALL WORK!

54. 16 in = _____ cm
given that 2.54cm = 1in
55. 25 mi/hr = _____ ft/min
given that 5280ft = 1 mi
56. Which is the better buy, 7 pounds of meat for \$8.47 or 9 pounds of meat for \$11.07? Explain.
57. 68% of what number is 64?
58. 13 is what percent of 39?
59. What is 40% of 720?
60. What percent of 18 is 3?