

Summer Packet For Algebra 1

Write an algebraic expression for the phrase.

1. the sum of b and 11
2. the product of g and 4
3. 4 times the sum of q and p

Define a variable and write an expression for the phrase.

4. the quotient of 6 times a number and 16
5. 4 less than a number

Simplify the expression.

6. $(-2)^3$
7. -5^4
8. $3[(15-3)^2 + 4]$
9. $4(20 + 12) \div (4 - 3)$
10. $3^3 \cdot 32 + 12 + 4$
11. $2 - (-7)$
12. $-3 + (-2)$
13. $-1 + 9$
14. $-\frac{1}{8} - \frac{2}{7}$
15. $3.7 - 1.8 - 3.67 + 4.4 - 1.34$
16. $6(a + 7)$
17. $-3(x - 5)$
18. $m + 6n - 4n + 2m - n$
19. $-10z - 28z$
20. $2z - 3z$
21. $-12 + (-2)$
22. Evaluate $-x + 4$ for $x = 5$
23. Evaluate $|-x - 2y|$ for $x = -2$ and $y = 3$.
24. Evaluate the expression $(ab)^2$ for $a = 4$ and $b = 3$.
25. Evaluate $u + xy$, for $u = 18$, $x = 10$, and $y = 8$.
26. You are driving to visit a friend in another state who lives 440 miles away. You are driving 55 miles per hour and have already driven 275 miles. Write and solve an equation to find how much longer in hours you must drive to reach your destination.

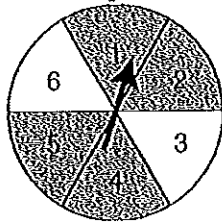
27. Steven wants to buy a \$565 bicycle. Steven has no money saved, but will be able to deposit \$30 into a savings account when he receives his paycheck each Friday. However, before Steven can buy the bike, he must give his sister \$65 that he owes her. For how many weeks will Steven need to deposit money into his savings account before he can pay back his sister and buy the bike?

28. The closing price of a share of stock in Company XYZ is \$25.69 on Thursday. If the change from the closing price on Wednesday is $-\$0.75$, find the closing price on Wednesday.

29. You made two deposits to your bank account this month. One deposit was \$17.92, and the second deposit was \$15.33. Your balance at the end of the month is \$72.31, and you made no withdrawals. Write and evaluate an expression for your balance at the beginning of the month.

30. Over the first five years of owning her car, Gina drove about 12,700 miles the first year, 15,478 miles the second year, 12,675 the third year, 11,850 the fourth year, and 13,075 the fifth year.
 a. Find the mean, median, and mode of this data.
 b. Explain which measure of central tendency will best predict how many miles Gina will drive in the sixth year.

Refer to the spinner below.



31. Find $P(\text{even } \#)$.

32. You roll a standard number cube. Find $P(\text{number greater than } 1)$

Write a function rule for the table.

33.

Hours Worked	Pay
2	\$15.00
4	\$30.00
6	\$45.00
8	\$60.00

34. The total cost to rent a row boat is \$18 times the number of hours the boat is used. Write an equation to model this situation if c = total cost and h = number of hours.

35. You can use the formula $C = \frac{5}{9}(F - 32)$ to convert temperature in degrees Fahrenheit, F , to temperature in degrees Celsius, C . What is 62°F in degrees Celsius? Round your answer to the nearest tenth.

Write and solve an equation to find the value of the variable.

36. 104, 137, 154, 131, x ; mean = 130

37. 109, 139, 116, 126, x ; mean = 124

Solve the equation.

38. $x + 2 = 7$

47. $3(y + 6) = 30$

39. $7 - x = 17$

48. $\frac{5p}{7} - 18 = -43$

40. $-14 = x + 2$

41. $x - 5 = -9$

49. Find the unit rate for number of parts manufactured per hour if 1630 parts are made in 6 hours. Round to the nearest integer.

42. $11 = -d + 15$

Solve the Proportion

43. $4x = 20$

50. $\frac{2}{10} = \frac{11}{x}$

44. $60 = -8x$

45. $\frac{x}{5} = -35$

46. $\frac{2}{3}x = 12$