

7th Grade

SUMMER

PACKET

$$\begin{array}{c} 2 > -3 \\ 0.999\dots = 1 \\ \pi \approx 3.14 \\ \sqrt{2} \\ 5(2+2) \end{array} \quad \begin{array}{c} \infty \\ 1 + 2 \cdot 3 \\ (1 - 2) + 3 \\ 101_2 = 5_{10} \end{array} \quad \begin{array}{c} + \\ - \\ \times \\ \div \\ 5^2 \end{array}$$

Name _____

2016-2017
Incoming 7th grade students
Summer Math Packet

Please complete this packet over the summer and return to your math teacher for extra credit.

This packet is to be completed at home during the summer break and turned in to your math teacher by the first week of the school year.

Make sure you show all the work, clear, and neat in order to receive full credit for your assignment.

Evaluate the expression when $x = 6$, $y = 10$, and $z = -12$.

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|--------------------|---------------------|---------------------------|
| 1. $13 - x$ | 2. $2x + y$ | 3. $\frac{x}{y}$ |
| 4. yz | 5. $\frac{1}{2}z^2$ | 6. $-2(y - z)$ |
| 7. $x^2 + 2y - 13$ | 8. $(z + x)^2 - y$ | 9. $\frac{(y - x)^2}{2z}$ |

Identify the property that the statement illustrates.

10. $a + (b + c) = (a + b) + c$
 11. $m \cdot n = n \cdot m$
 12. $x(y + z) = xy + xz$
 13. $x \cdot 1 = x$

Use the distributive property to write an equivalent variable expression.

14. $9(x + 3)$ 15. $-3(2d - 4)$ 16. $(9 + 7x)(-5)$

Simplify the expression.

17. $4(3m)$ 18. $-3b(13)$ 19. $x + 9x$
 20. $-5t + 7t - 2t$ 21. $3p - (p + 6)$ 22. $5d + (3 - d)$
 23. $4(c + 2) + c$ 24. $-2(y + 3) - 7y$ 25. $-k + 5(k - 6)$

Solve the equation.

- | | |
|--------------------------------|---------------------------------|
| 26. $x + 14 = -7$ | 27. $5 = h - 23$ |
| 28. $-13z = 169$ | 29. $\frac{r}{4} = -14$ |
| 30. $-1.2 + y = 3.7$ | 31. $j - 9.2 = -3.6$ |
| 32. $3.6 = 2.4v$ | 33. $0.8 = \frac{a}{6.5}$ |
| 34. $\frac{c}{5} + 4 = -2$ | 35. $51 = -3 - \frac{b}{2}$ |
| 36. $6(x + 3) - 1 = -7$ | 37. $4h - 3(h + 2) = -8$ |
| 38. $k + (2 - 5k)(6) = k + 12$ | 39. $-3t + 7(t - 1) = -11 + 2t$ |

Answers

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Write the verbal sentence as an equation.

40. Six plus 4 times a number is equal to 16 minus the number.
41. Five times a number minus -11 is equal to 26 times the number.
42. A number divided by 3 and increased by 5 is equal to -9 .
43. A number less 13 is equal to the number divided by 2.

Solve the inequality.

44. $x + 5 < -4$ 45. $45 \geq c - 5$
46. $-6y \geq 72$ 47. $-3 < \frac{b}{18}$
48. $8 - 3w \leq 14$ 49. $17 > \frac{p}{4} - 20$
50. $-t - 7 \geq 3(t + 1)$ 51. $-6x + 17 > 5 - 2x$

Write the verbal sentence as an inequality.

52. The difference of 5 and y is at least 19.
53. The sum of z and -12 is greater than -20 .
54. The quotient of x and 4 is at most -2 .
55. The product of b and 7 is less than 84.

Find the greatest common factor of the monomials.

56. $3x^2, 13x$ 57. $64a^5b^5, 80a^4b^7$ 58. $15p, 35p^2$

Write the fraction in simplest form.

59. $\frac{35k^2}{28k}$ 60. $\frac{64a^5}{8a^3}$ 61. $\frac{51xy^3}{34x^4}$ 62. $\frac{24mp}{40m^2p^3}$

Find the least common multiple of the monomials.

63. $4t, 20t^2$ 64. $10xy^2, 12x^2y$ 65. $15a^4b^2, 24ab^3$

Find the product or quotient. Write your answer using only positive exponents.

66. $t^4 \cdot t^0$ 67. $y^2 \cdot y^{-5}$ 68. $2a^3 \cdot 4a^2$ 69. $b^{-4} \cdot b^{-1}$
70. $\frac{m^3}{m^5}$ 71. $\frac{x^{-2}}{x^{-4}}$ 72. $\frac{54d^6}{3d^5}$ 73. $\frac{9p^5}{3p^{-2}}$

Answers

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