

Chapter 1

For 1 to 4 write an algebraic expression for each phrase.

1. The sum of a number and 12.
2. The product of 2 and a number.
3. The quotient of 36 and a number.
4. Four less than nine times a number.

Simplify each using order of operations.

NO Calculator

5. $10 + 20 \div (2 + 3 \cdot 6)$ 6. $18 - 3 + 6 - 2 + 1$ 7. $24 \div 3 \cdot 4 \div 2$

8. $4 + 2(9 - 6)^2$ 9. $14 - 2[12 + (3^2 - 1)]$ 10. $|7| - |-3|$

11. $|-7 + 2| + |-1|$

Evaluate for $x = -2$ $y = 4$ $a = 5$ $b = -3$

NO Calculator

12. $2a^2 - b$ 13. $b^2 + xy$ 14. $-x + b$

Simplify by removing the parentheses using the distributive property.

15. $4(3m + 2)$ 16. $-10(2A - 8)$ 17. $-(4k - 3)$ 18. $\frac{3}{5}(10c + 35)$

Simplify by combining like terms. You may have to use the distributive property first.

19. $12M + N - 9 + 2N + M - 2 + 8M$ 20. $x^2 + 2x^3 - 6x + 14x^2 - 9x^3 + x - 15x^2$

21. $mn^2 - 4mn + 5m^2n - 9mn + 4m^2n + 12mn^2$

22. $5(Q + 2) - 2(3Q - 7) + 20$

Chapter 2

For 1 to 21 find the EXACT solution to each equation.

1. $-32M = 768$ 2. $T + 37.1 = 78.9$ 3. $N - 26.8 = -37.2$ 4. $\frac{W}{4} = 40$

5. $\frac{8}{7}Y = 24$ 6. $3P + 41 = 95$ 7. $16 - 4A = -116$ 8. $\frac{E}{9} - 6 = 20$

9. $20 - L = 203$ 10. $16 + \frac{3}{7}G = 34$ 11. $8(3M + 2) = 376$ 12. $4W + 2(W - 3) = -42$

13. $8Q + 17 - 6Q - 5 = 19.5$ 14. $3(T + 7) + 2(4T - 3) = 158$ 15. $7K + 305 = 12K$

16. $10 - 2R = -8R + 148$ 17. $6V = 165 + 9V$ 18. $9M - 4(M + 3) = 4M - 23$

19. $\frac{5}{3}x + \frac{7}{6} = \frac{11}{12}$ 20. $7a + 2(a - 9) = a + 7 + 8a$

21. $4 - 3(2c - 5) + 4c = 5c + 11 - 7c + 8$

22. Solve this equation for K . $\frac{K}{R} = T$ 23. Solve this equation for M . $M - P = Y$

24. Solve this equation for V . $VEJ = Q$ 25. Solve this equation for S $SR - M = U$

26. Solve this equation for C $\frac{H+C}{W} - R = A$

27. Solve this equation for R $M(R - K) + B = G$