



Expressions & Equations Intro

Name: _____

Grade: 6

Date: _____

*Write and evaluate expressions, apply properties, and solve single-step equations.
Show substitution & inverse operations clearly.*

Part 1 · Vocabulary & Forms BASICS

1. Simplify: $4y + 3y =$ _____

2. Term with variable in $9k + 2 =$ _____

3. Coefficient of m in $-5m =$ _____

4. Expression: "six less than a number n " = _____

5. "Triple a then add 4" = _____

6. Number of terms in $7x - 5 + 2x =$ _____

Part 2 · Evaluate (Substitute) EVAL

7. $2x + 5$ for $x=4 =$ _____

8. $6(a-2)$ for $a=9 =$ _____

(9. $(p+3)/2$ for $p=7 =$ _____

(10. $3y^2$ for $y=5 =$ _____

(11. $4k - 2k + 9$ at $k=6 =$ _____

(12. $(2m)(3m)$ for $m=2 =$ _____

Part 3 · Properties PROP

(13. Name property: $5 + (8 + 2) = (5 + 8) + 2 \rightarrow$ _____

(14. $7 \times (4+3) = 7 \times 4 + 7 \times 3 \rightarrow$ _____ property

(15. $1 \cdot x = x \rightarrow$ _____ property

(16. $0 + r = r \rightarrow$ _____ property

(17. $9 + y = y + 9 \rightarrow$ _____ property

(18. $6 \cdot (2 \cdot x) = (6 \cdot 2) \cdot x \rightarrow$ _____ property

Part 4 · One-Step Equations SOLVE

(19. $x + 9 = 21 \rightarrow x =$ _____

(20. $y - 7 = 13 \rightarrow y =$ _____

(21. $5n = 45 \rightarrow n =$ _____

(22. $p/6 = 9 \rightarrow p =$ _____

(23. $k - 18 = -3 \rightarrow k =$ _____

(24. $-4m = 32 \rightarrow m =$ _____

Part 5 · Mixed Reasoning MIX

(25. Perimeter rectangle $2(l+w)$: $l=8$, $w=5$ express & evaluate = _____

(26. Twice a number decreased by 11 is 25. Equation: _____ ; solution

(27. Sum of three equal numbers is 81. One number = _____

(28. $3x + 4 = 28 - x \rightarrow x =$ _____

(29. 9 more than half a number is 30. Equation: _____ ; solution

(30. Reflection: Skill easiest? _____

Part 6 · Error Analysis FIX

31. Error: $4y + 3y = 4y^3$. Correct & mistake: _____ / _____

32. Error: Solve $5n=45$ gave $n=5+45$. Correct & mistake: _____ / _____

33. Error: $x+7=10 \rightarrow x=17$. Correct & error: _____ / _____

Part 7 · Challenge CHALLENGE

34. $2(x+5)=3x-4 \rightarrow x =$ _____

35. If $4x + 3 = 2x + 19 \rightarrow x =$ _____

36. A number minus its half is 42. Number = _____

37. Simplify: $6a - 2(3 - a) =$ _____

38. $5(y - 2) + 3 = 2(y + 7) \rightarrow y =$ _____

39. Reflection: Strategy most helpful? _____

Answer Key

1. $7y$
2. $9k$
3. -5
4. $n - 6$
5. $3a + 4$
6. 3
7. 13
8. 42
9. 5
10. 75
11. $18 + 9 = 27$
12. 48
13. Associative of Addition
14. Distributive
15. Multiplicative Identity
16. Additive Identity
17. Commutative
18. Associative of Multiplication
19. 12
20. 20
21. 9
22. 54
23. 15
24. -8
25. $2(8+5)=26$
26. $2x - 11 = 25 ; x=18$
27. 27
28. $3x + x = 28 - 4 \rightarrow 4x=24 \rightarrow x=6$
29. $(1/2)n + 9 = 30 ; n=42$
30. Varies
31. $7y$ / added not multiplied exponents
32. $n=9$ / misapplied addition
33. $x=3$ / added instead of subtracting 7
34. $2x + 10 = 3x - 4 \rightarrow x=14$
35. $4x - 2x = 19 - 3 \rightarrow x=8$
36. $n - n/2 = 42 \rightarrow n/2 = 42 \rightarrow n=84$
37. $6a - 6 + 2a = 8a - 6$
38. $5y - 10 + 3 = 2y + 14 \rightarrow 5y - 2y = 24 \rightarrow y=8$

39. Varies

Reflection answers vary; accept concise correct reasoning for properties.