■ Algebra Fundamentals – Balancing Equations Worksheet

Section A: Factoring

1. $x^2 + 5x + 6 = 0$
2. $x^2 - 9 = 0$
3. $2x^2 + 8x = 0$

Section B: Distributing

4. $3(x + 4) = 21$
5. $-2(5x - 7) = 12$
6. $(x + 2)(x + 3) = 0$

Section C: Simplification

7. $12x / 4 = 9$
8. $5x + 2x - 3 = 18$
9. $6x - (2x - 5) = 19$

Section D: Solving Linear Equations

10. $x + 7 = 15$
11. $3x - 4 = 8$
12. $x / 5 + 2 = 6$

Section E: Addition & Subtraction

13. $(4x + 7) + (3x - 2) = 30$
14. $(9x - 4) - (2x + 6) = 20$

Section F: Multiplication & Division

15. $(2x)(3x) = 54$
16. $12x^2 / 3x = 8$

Section G: Exponents & Radicals

17. $x^3 \cdot x^2 = 125$
18. $(x^■)^2 = 256$
19. $\sqrt{49} = x$
20. $\sqrt{x^2} = 7$

Section H: Multiple Operations

21. $2(x + 3) - 4 = 10$
22. $(3x^2 + 2x) - (x^2 - 5x) = 20$
23. $(2x + 6) / 2 = 8$

Bonus Challenge

$(x + 2)(x - 3) = (x + 1)(x - 4)$