Name _____
Date _____

Simplifying Expressions

KEY IDEA
Simplifying usually means two moves in sequence: distribute, then combine. Multiply each term inside the parentheses by the factor outside, watching the sign of that factor carefully, and only then collect like terms. A negative in front of parentheses multiplies every term inside by –1.

How to do it

1. Distribute each factor across its parentheses, including the sign.
2. Rewrite the expression with no parentheses remaining.
3. Group and combine like terms.
4. Double-check the sign on every term that came from a negative factor.

Worked examples

Example 1. –6(7x + 9) + 5(7x + 3)

–7x – 39

Example 2. 6(7x + 4) + 5(4x + 1)

62x + 29

Example 3. 5(5x – 8) + 3(–2x + 7)

19x – 19

Example 4. 5(7x – 4) – 4(–3x – 3)

47x – 8

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Simplifying Expressions

Directions: Simplify each expression by distributing, then combining like terms.

1. 3(–7x + 9) – 4(–x + 9)

2. 5(2x + 3) + 6(7x + 2)

3. –4(–3x + 8) – 2(–5x – 7)

4. –6(–x + 9) + 3(–6x – 6)

5. –4(8x – 1) + 6(–8x + 9)

6. –3(2x – 4) + 2(–2x + 8)

7. –5(x – 8) – 6(2x + 1)

8. –6(–x + 6) + 5(–8x + 9)

9. –3(3x + 8) – 2(3x – 7)

10. –3(–3x + 8) + 6(–5x – 6)

11. 5(–4x + 5) – 3(–x + 1)

12. –4(–4x – 3) + 3(8x – 3)

13. 5(–3x – 6) – 6(–5x + 4)

14. 5(–5x + 2) – 3(x + 6)

15. –3(–5x + 3) + 3(–3x – 1)

16. 5(5x + 8) + 6(–3x – 8)

17. –5(–5x – 5) + 6(4x – 4)

18. –5(–5x – 4) + 3(2x + 6)

19. –5(–4x – 7) + 5(–6x + 4)

20. 3(2x + 4) – 4(–6x + 1)