Expand and Factor Linear Expressions: Paired Practice Guide

Original tasks 1, 2, 3, 4 / complete keys

Task 1

Expand 5(2x + 7).

Answer: 10x + 35

Reason: Multiply 5 by 2x to get 10x, and 5 by 7 to get 35. No like terms remain.

Check: Factor 10x + 35 by GCF 5: 5(2x + 7), which matches the original.

Task 2

Factor 14x - 21 by the greatest common factor.

Answer: 7(2x - 3)

Reason: The GCF of 14 and 21 is 7. Divide each term: 14x ÷ 7 = 2x and -21 ÷ 7 = -3.

Check: Expand 7(2x - 3) = 14x - 21, which matches the original.

Task 3

Expand -3(4x - 6).

Answer: -12x + 18

Reason: Multiply -3 by 4x to get -12x, and -3 by -6 to get +18.

Check: Factor -12x + 18 by GCF -6 or 6. Using -6: -6(2x - 3) expands to -12x + 18. Using 6: 6(-2x + 3) also expands to -12x + 18.

Task 4

Factor 9x + 15 and then expand your answer to verify.

Answer: 3(3x + 5)

Reason: The GCF of 9 and 15 is 3. Divide: 9x ÷ 3 = 3x and 15 ÷ 3 = 5.

Check: Expand 3(3x + 5) = 9x + 15, which matches the original expression.

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Source rubric / reflection

- [ ] Expansion multiplies the outside factor by every term inside.
- [ ] Factoring divides every term by the stated GCF.
- [ ] Signs are preserved and checked by expansion.
- [ ] Equivalent factored forms are accepted if expansion matches.
- [ ] Handwriting follows the stated x-height convention for legibility.

Reflection: What did you check, what did you change, and what will you try next?