

Combining Like Terms & Distributive Property

Name: _____ Date: _____

LEARNING OBJECTIVE

The student will simplify algebraic expressions by combining like terms and applying the distributive property.

MATERIALS NEEDED

- Construction paper in 2 colors, cut into small squares (10 of each color)
- Scissors
- Glue stick
- Notebook paper
- Pencil

HANDS-ON ACTIVITY

1. Label one color of squares 'x' and the other color 'number' (constant) using a marker.
2. Use the squares to physically build the expression $3x + 5 + 2x + 1$ by laying out 3 'x' squares, 5 'number' squares, 2 more 'x' squares, and 1 more 'number' square.
3. Group all matching squares together (all x's in one pile, all numbers in another) and glue each group onto notebook paper to show the simplified expression.
4. Write the simplified expression in numbers/symbols below your glued squares ($5x + 6$).
5. Repeat the process for the expression $2(x + 4)$ by building 2 groups of (1 x-square + 4 number-squares), then combine and simplify to show the distributive property.

QUESTIONS

1. **Simplify:** $3x + 5 + 2x + 1$. **Show your combined terms.**
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2. **Use the distributive property to expand** $2(x + 4)$.
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3. **Simplify:** $4x + 3 - x + 7$.
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4. Explain in your own words why you can only combine 'x squares' with other 'x squares,' not with 'number squares.'
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