

Maths with Melissa

Solving Double Brackets with the Grid Method

The grid method is a visual way to multiply two binomials (expressions with two terms), often called "double brackets." This method helps organize your working and reduces the chance of missing terms.

It is especially useful for expressions like $(x + 3)(x + 5)$.

Step-by-Step Guide

Write each binomial along the top and side of a grid:

For $(x + 3)(x + 5)$, write one bracket across the top and the other down the side:

	x	3
x		
5		

Fill in each cell by multiplying the corresponding row and column:

	x	3
x	$x \times x$	$x \times 3$
5	$5 \times x$	5×3

Simplify each cell:

	x^2	$3x$
$5x$	$5x$	15

Add all the terms together:

Combine the results: $x^2 + 3x + 5x + 15$

Simplify by collecting like terms

$$x^2 + 8x + 15$$

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Practice Problems

1. Expand $(x + 2)(x + 7)$ using the grid method.
2. Expand $(2x + 1)(x + 4)$ using the grid method.
3. Expand $(x - 3)(x + 6)$ using the grid method.

Tips

- Always check your multiplication in each grid cell.
- Remember to combine like terms at the end.
- For negative terms, be careful with your signs.

Answer Key

1. $(x + 2)(x + 7):$

$$\begin{array}{r} x^2 \quad 2x \\ 7x \quad 7x \quad 14 \\ \hline \end{array}$$

Combine: $x^2 + 2x + 7x + 14 = x^2 + 9x + 14$

2. $(2x + 1)(x + 4):$

$$\begin{array}{r} 2x^2 \quad 8x \\ 1x \quad 1x \quad 4 \\ \hline \end{array}$$

Combine: $2x^2 + 8x + x + 4 = 2x^2 + 9x + 4$

3. $(x - 3)(x + 6):$

$$\begin{array}{r} x^2 \quad 6x \\ -3x \quad -3x \quad -18 \\ \hline \end{array}$$

Combine: $x^2 + 6x - 3x - 18 = x^2 + 3x - 18$