

Examples - Expanding Brackets

Example 1 Expand $4(3x - 2)$

$4(3x - 2) = 12x - 8$	Multiply everything inside the bracket by the 4 outside the bracket
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Example 2 Expand and simplify $3(x + 5) - 4(2x + 3)$

$\begin{aligned} 3(x + 5) - 4(2x + 3) \\ = 3x + 15 - 8x - 12 \\ = 3 - 5x \end{aligned}$	1 Expand each set of brackets separately by multiplying $(x + 5)$ by 3 and $(2x + 3)$ by -4 2 Simplify by collecting like terms: $3x - 8x = -5x$ and $15 - 12 = 3$
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Example 3 Expand and simplify $(x + 3)(x + 2)$

$\begin{aligned} (x + 3)(x + 2) \\ = x(x + 2) + 3(x + 2) \\ = x^2 + 2x + 3x + 6 \\ = x^2 + 5x + 6 \end{aligned}$	1 Expand the brackets by multiplying $(x + 2)$ by x and $(x + 2)$ by 3 2 Simplify by collecting like terms: $2x + 3x = 5x$
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Example 4 Expand and simplify $(x - 5)(2x + 3)$

$\begin{aligned} (x - 5)(2x + 3) \\ = x(2x + 3) - 5(2x + 3) \\ = 2x^2 + 3x - 10x - 15 \\ = 2x^2 - 7x - 15 \end{aligned}$	1 Expand the brackets by multiplying $(2x + 3)$ by x and $(2x + 3)$ by -5 2 Simplify by collecting like terms: $3x - 10x = -7x$
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