

4.1.2 - Expand and Regroup Expressions

4.1 - Algebra - Expressions

Leaving Certificate Mathematics

Higher Level & Ordinary Level



Example 1

Q. Expand and simplify the following expression:

$$2(x + 3y - 2) + 3(2x - 4y + 1)$$

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$$= 2x$$

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$$2(x + 3y - 2) + 3(2x - 4y + 1)$$

$$= 2x + 2(3y)$$

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$$2(x + 3y - 2) + 3(2x - 4y + 1)$$

Answer:

$$2(x + 3y - 2) + 3(2x - 4y + 1)$$

$$= 2x + 2(3y) - 2(2)$$

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Answer:

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$$= 2x + 2(3y) - 2(2) + 3(2x)$$

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$$= 2x + 6y - 4 + 6x - 12y + 3$$

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$$2(x + 3y - 2) + 3(2x - 4y + 1)$$

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$$2(x + 3y - 2) + 3(2x - 4y + 1)$$

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$$= 2x + 6y - 4 + 6x - 12y + 3$$

$$= 8x - 6y - 1$$

Example 2

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$$(x + 3)(2x + 4) = x(2x + 4) + 3(2x + 4)$$

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$$\begin{aligned}(x + 3)(2x + 4) &= x(2x + 4) + 3(2x + 4) \\ &= 2x^2 + 4x\end{aligned}$$

Example 2

Q. Expand and simplify the following expression:

$$(x + 3)(2x + 4)$$

Answer:

$$\begin{aligned}(x + 3)(2x + 4) &= x(2x + 4) + 3(2x + 4) \\ &= 2x^2 + 4x + 6x + 12\end{aligned}$$

Example 2

Q. Expand and simplify the following expression:

$$(x + 3)(2x + 4)$$

Answer:

$$\begin{aligned}(x + 3)(2x + 4) &= x(2x + 4) + 3(2x + 4) \\ &= 2x^2 + 4x + 6x + 12 \\ &= 2x^2 + 10x + 12\end{aligned}$$