

Simplify algebraic expressions, expand binomial products and factorise monic quadratic...

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Learning intention

- simplify algebraic expressions, expand binomial products and factorise monic quadratic expressions

Teach and model

- expanding combinations of binomials such as $(x+7)(x+8)$, $(x+7)(x-8)$, $(x-7)(x+8)$, $(x-7)(x-8)$ to identify expansion and factorisation...
- using manipulatives such as algebra tiles or area models to expand or factorise algebraic expressions with readily identifiable binomial factors; for example...
- recognising the relationship between expansion and factorisation, and using digital tools to systematically explore the factorisation of x^2+mx+n where m and n ...

Check understanding

- Explain the main idea in simplify algebraic expressions, expand binomial products and factorise monic quadratic... using an example.
- Show the idea in a second way: with words, a model, a diagram or symbols.
- Apply the idea to a short unfamiliar situation and justify the result.

Teaching cautions

- Ask the student to explain their choice, not only state an answer.
- Check that key vocabulary is understood in a new example.
- Mix representations so the skill is transferred rather than copied.

Quick lesson sequence

- Connect to prior knowledge and introduce the key vocabulary.
- Model one clear example, then solve a second example together.
- Finish with an independent check and a short student explanation.