Year 9 | Algebra

Quadratic expansion and factorisation

Learn and practise | Free preview

A sample from this topic. The complete topic collection contains three different resources and worked solutions.

Read the explanation and worked example. Show your working; use a calculator only where asked.

What you will practise

• Expand binomial products and factorise monic quadratic expressions.

• Explain a method and check the reasonableness of a result.

Useful starting skills: Use the prerequisite operations and representations shown in the worked example.

When multiplying two binomials, multiply every term in the first by every term in the second. Collect the two middle terms.

For x^2+bx+c, seek integers whose sum is b and product is c. Factorisation reverses expansion, so expand your factors to check.

Worked example

Factorise $x^2+7x+12$.

Numbers 3 and 4 add to 7 and multiply to 12.

Use them as constants in two factors.

Answer: $(x+3)(x+4)$

Try it yourself

Name: _____ Date: _____

1. Expand (x+2)(x+5).

2. Expand (x-4)(x+3).

Answers and explanations

Check the method as well as the final answer. An alternative correct method is also valid.

1. $x^2+7x+10$

Multiply the four term pairs.

2. x^2-x-12

Middle terms 3x-4x.

Curriculum reference: VC2M9A02

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