Rational coefficient equations

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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

• Simplify and solve linear expressions with rational coefficients.

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

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

Rational coefficients are fractions or terminating/repeating decimals. A common denominator converts an equation into an equivalent integer-coefficient form.

Multiply every term by the same non-zero common denominator. Retain brackets around whole numerators, collect like terms, then substitute to verify.

Worked example

Solve $(2x-1)/3+(x+2)/6=5$.

Multiply by 6: $2(2x-1)+(x+2)=30$.

$5x=30$.

Answer: $x=6$

Try it yourself

Name: _____ Date: _____

1. Simplify x/3+x/4.

2. Solve x/2+x/3=10.

Answers and explanations

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

1. 7x/12

Use common denominator 12.

2. x=12

Multiply by 6 to get 5x=60.

Curriculum reference: VC2M10AA03

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