Linear inequalities

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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

• Solve and represent linear inequalities with correct boundary notation.

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

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

Solve inequalities using balanced operations. Reverse the direction when multiplying or dividing by a negative number.

A filled point includes a boundary (≤ or≥); an open point excludes it (< or>). Use the original inequality to test a point from each side.

Worked example

Solve -3x+4≥16.

Subtract 4:-3x≥12.

Divide by -3 and reverse the sign.

Answer: x≤-4

Try it yourself

Name: _____ Date: _____

1. Solve $2x+5<17$.

2. Solve $5x-8\geq12$.

Answers and explanations

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

1. $x<6$

Subtract 5 and divide 2.

2. $x\geq 4$

Add 8 and divide 5.

Curriculum reference: VC2M10A08

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