Factors, multiples and divisibility algorithms

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

Show your thinking using words, working or a labelled drawing. Use the explanations and example first.

What you will practise

• Factors, multiples and divisibility algorithms

• Explain and check an answer with an appropriate representation.

Useful starting skills: Use objects, drawings or a number line to explain a simple idea.

Factors divide a whole number exactly. Multiples are the results of multiplying it by whole numbers. Factor pairs help you organise a complete list.

An algorithm can test possible factors one by one. State the starting value, the divisibility decision, the repeated update and when to stop. Useful divisibility tests can make the work more efficient.

Worked example

Find the positive factors of 20.

Test pairs whose product is 20: 1×20, 2×10 and 4×5.

Read the paired factors in ascending order.

Answer: 1, 2, 4, 5, 10, 20

Try it yourself

Name: _____ Date: _____

1. List every positive factor of 24. Show factor pairs.

2. List the first five positive multiples of 9.

Answers and explanations

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

1. 1, 2, 3, 4, 6, 8, 12, 24

The pairs are 1×24, 2×12, 3×8 and 4×6; each product is 24.

2. 9, 18, 27, 36, 45

Multiply 9 by 1, 2, 3, 4 and 5.

Curriculum reference: VC2M5N02; VC2M5N10

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