Year 7 | Space

Classifying shapes with algorithms

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

• Classify polygons using properties and explicit decision rules.

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

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

Classify a polygon using its side and angle properties, not its orientation. A square is also a rectangle and a rhombus because it satisfies both definitions.

An algorithm is an ordered set of decisions. Test it with examples and counterexamples. State conventions: here a trapezium has at least one pair of parallel sides.

Worked example

Classify a quadrilateral with four equal sides and four right angles.

Four right angles make it a rectangle.

Four equal sides make it a rhombus.

Answer: It is a square, rectangle, rhombus and parallelogram.

Try it yourself

Name: _____ Date: _____

1. Classify a triangle with side lengths 5,5,8.

2. Classify a triangle with angles 30°,60°,90°.

Answers and explanations

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

1. Isosceles

Two sides are equal; the lengths form a triangle.

2. Right-angled and scalene

One right angle; all angles and therefore sides differ.

Curriculum reference: VC2M7SP02; VC2M7SP04

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