Congruence similarity and decision rules

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

• Identify congruent and similar triangles and test 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.

Congruent shapes have equal corresponding lengths and angles. Triangle congruence can be established using SSS, SAS, ASA/AAS or RHS.

Similar triangles have equal corresponding angles and a common scale factor for corresponding sides. AAA proves similarity, not congruence. An algorithm must compare corresponding features consistently.

Worked example

Compare triangles with sides 3,4,5 and 6,8,10.

Side ratios are all 2.

The sizes differ.

Answer: Similar, not congruent

Try it yourself

Name: _____ Date: _____

1. Two triangles have matching side lengths 5,6,7. What establishes congruence?

2. Two triangles have angles 40°,60°,80°. Must they be congruent?

Answers and explanations

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

1. SSS

All three corresponding sides match.

2. No; they are similar

Angles do not fix size.

Curriculum reference: VC2M8SP01; VC2M8SP04

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