Ratios scale and enlargement

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

• Use scale factors, proportional reasoning and measurement models.

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

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

An enlargement multiplies corresponding lengths by scale factor k. Angles remain equal; areas multiply by k^2 and volumes by k^3 for similar shapes and solids.

A scale model relates drawing lengths to actual lengths in common units. Check whether a proportional model remains reasonable in the real setting.

Worked example

A map scale is 1:25 000. Find actual distance for 4 cm.

4×25 000=100 000 cm.

Convert to 1000 m.

Answer: 1 km

Try it yourself

Name: _____ Date: _____

1. Enlarge a 6 cm side by factor 2.5.

2. A shape enlarges by 3. Find its area scale factor.

Answers and explanations

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

1. 15 cm

Multiply 6×2.5.

2. 9

3^2.

Curriculum reference: VC2M9M05; VC2M9SP02

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