

Scale diagrams and maps

- ① The scale on a map is 1 : 50 000.
Two towns are 10 cm apart on the map.
What is their actual distance apart?
Give your answer in km. (2 marks, ★)

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- ② A map is drawn to a scale of 1 : 40 000. Find the actual length, in km, of a straight road of length (★)

a 2.3 cm (1 mark)

b 3 mm (1 mark)

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- ③ On a scale drawing of a garden, the length of a path whose actual distance is 40 m is 5 cm. Find the scale of the drawing in the form 1 : n where n is an integer. (3 marks, ★★)

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- ④ The map shows a port and a gas rig.
The actual distance from the port to the gas rig is 12 km.

By taking a measurement from the map, work out the scale of the map.

Give your answer in the form 1 : n where n is an integer. (3 marks, ★★)

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NAIL IT!

When changing a map scale to a ratio, make sure that the two quantities in the ratio are changed into the same units. For example,
 $1 \text{ cm} : 500 \text{ m} = 1 \text{ cm} : 50\,000 \text{ cm}$
 $= 1 : 50\,000$.

Multiply each of these lengths by 40 000 and then change the units.

[Total: 2 marks]



STRETCH IT!

If you photocopied this page at A3 scale, the enlargement could be expressed by the ratio $1 : \sqrt{2}$.

How would this affect the answer you get in Question 4?

