

4.2 Scale Diagrams

MathLinks 9, pages 139–145

Key Ideas Review

Match the term in column A with the correct description in column B.

A	B
1. scale diagram	a) $\frac{1}{120000} = \frac{4}{?}$
2. scale	b) $3 \text{ cm} \times 1\,200\,000 = ?$
3. solve using a scale	c) 1:1 200 000
4. solve using a proportion representation	d) a proportionally smaller or larger object

Check Your Understanding

5. State which numbers you multiply or divide to find the missing value.

a) $\frac{1}{5} = \frac{?}{85}$

b) $\frac{1}{?} = \frac{6}{132}$

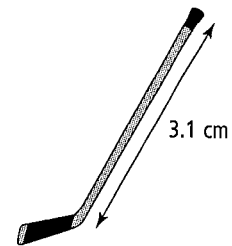
6. Determine the missing value. Show your thinking.

a) $\frac{1}{9} = \frac{13.5}{\square}$

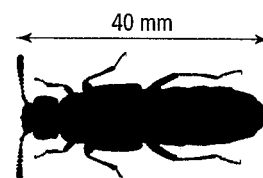
b) $\frac{1}{\square} = \frac{12.5}{50}$

7. Use the scale factor to calculate the actual length of each object.

a) The scale factor for the image of this hockey stick is 1:42.



b) The Euvira Micmac beetle below is enlarged using a scale factor of 1:0.05.



Date: _____

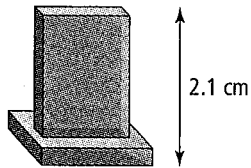
8. Determine the scale factor for each question below. Show your thinking.

a) $\frac{\square}{\square} = \frac{30}{225}$

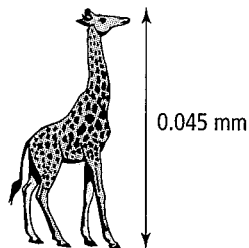
b) $\frac{\square}{\square} = \frac{3.8}{15.2}$

9. What scale factor is used to create each image below?

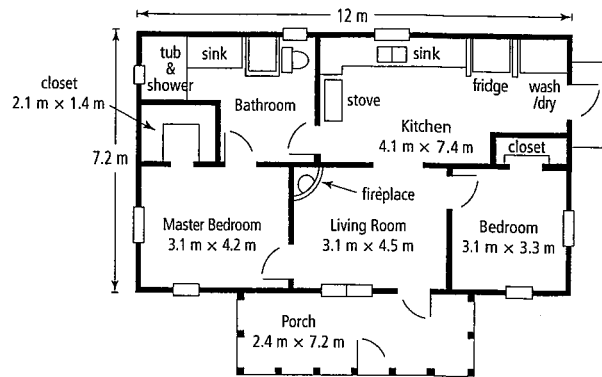
- a) The actual size of this award is 34.3 cm.



- b) The average height of a male giraffe is 6 m.



10. A blueprint is used to show all the measurements needed to build rooms in a house and the house itself.



- a) What is the scale factor used to draw the blueprint? Express the denominator of the scale factor to the nearest whole number.

- b) Draw the master bedroom using a scale factor of 1:290. Express the calculations for the width and length of your drawing to the nearest tenth.

- c) What is the area of your drawing in part b)? Express your answer to the nearest hundredth.