7 Translation and enlargement – Part 2

Name: _____ Class: _____ Date: _____

Vocabulary

Write each word three times.

English	**Write it 3 times** (English)		
translation			
enlargement			
scale factor			

Recall

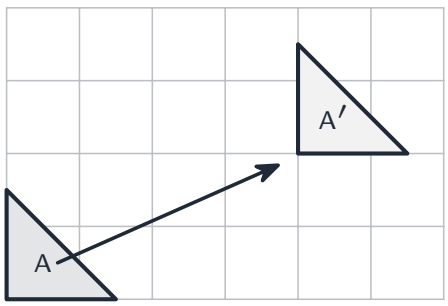
Two more transformations slide a shape or change its size.

New ideas

Read these first, then do the Practice.

■ 1 Translation

A **translation** slides a shape – same size, same way up – by a vector (so many across, so many up):

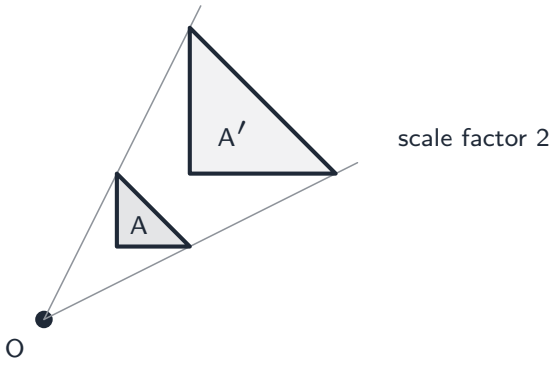


translate 4 right, 2 up

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2 Enlargement

An **enlargement** changes the size by a **scale factor**, measured from a centre:



A scale factor of 2 makes every length **twice** as long.

Watch out: a **translation** slides a shape – same size, same way up – by a vector (across, up). An **enlargement** changes the size by the **scale factor**: every length is multiplied by it.

Practice

Try these in order.

7.6 In a translation, does the shape change size? [1]

7.7 A point at (1, 1) is translated 3 right and 2 up. What are its new coordinates? [2]

7.8 What does an enlargement change about a shape? [1]

7.9 A shape is enlarged by scale factor 2. A side was 5 cm. How long is it now? [1]

7.10 A shape is enlarged by scale factor 3. A side was 4 cm. How long is it now? [1]

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7.11 Challenge. A rectangle 3 cm by 5 cm is enlarged by scale factor 4. Find the new side lengths and the new perimeter. [3]