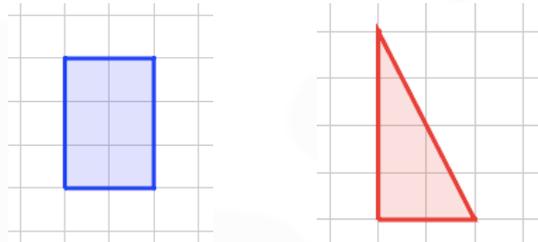


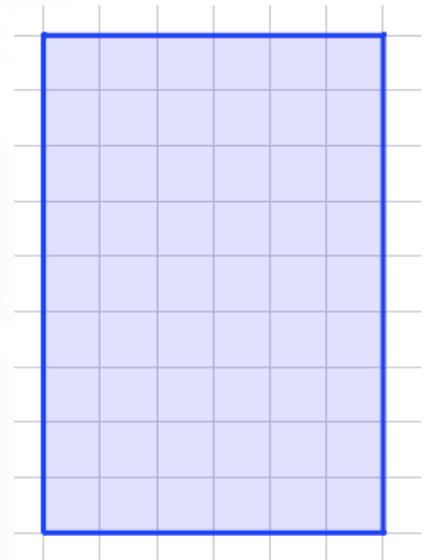
Enlargement

Starter

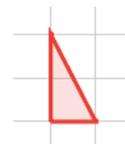
1. **(Review of last lesson)** A cylinder has a height of 15 cm and its volume is $135\pi \text{ cm}^3$. Calculate its radius.
2. **(Review of last lesson)** A cylindrical cup has radius 2.5 cm and height 12 cm. The cup is to be painted on its outside. What is the area to be painted? Give your answer to 3 s.f..
3. (a) Enlarge the **rectangle** by a length factor of 3.
(b) Enlarge the right-angled **triangle** by a length factor of $\frac{1}{2}$.



Working: (a) Original rectangle is 2 by 3
Length factor is 3
Multiply lengths by 3
Enlarged rectangle is 6 by 9



(b) Original triangle: base is 2 height is 4
Length factor is $\frac{1}{2}$
Multiply lengths by $\frac{1}{2}$
Enlarged triangle: base is 1 height is 2

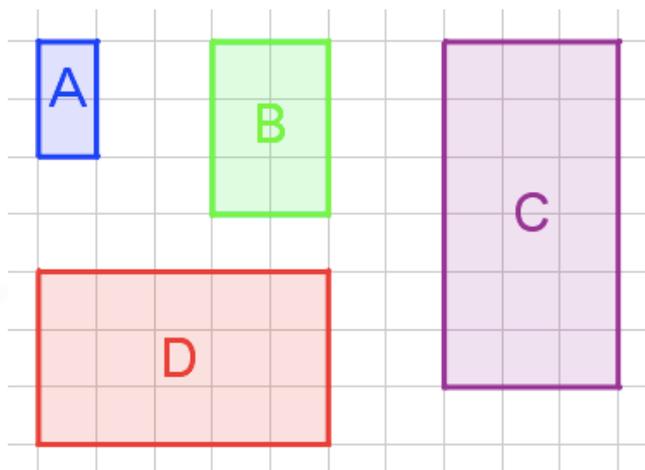


Notes

An **enlargement** increases (or decrease) the size of a shape. The multiplier is known as the **length factor** or scale factor.

Each length on the shape gets multiplied by the length factor.

E.g. 1 Decide whether rectangles **B**, **C** and **D** are enlargements of rectangle **A**.



Working:

Rectangle A: shortest side = 1 longest side = 2

Rectangle B

Shortest side = 2 this has been doubled from A

If the longest side of A is doubled, it would be 4

But the longest side of B is 3 — so **rectangle B is not an enlargement of A**

[Video 1:](#)

[Video 2:](#)

[Enlargements \(without centre\)](#)

[Enlargements \(without centre\)](#)

[Solutions to Starter and E.g.s](#)

Exercise

p132 Ex 19.1 Qu 1-6, 7ac, 8ac, 9, 10

Summary

Enlargement increases (or decrease) the size of a shape by a multiplier known as the **length factor** or scale factor.

Each length on the shape gets multiplied by the length factor.