

Scale factor and dimensions

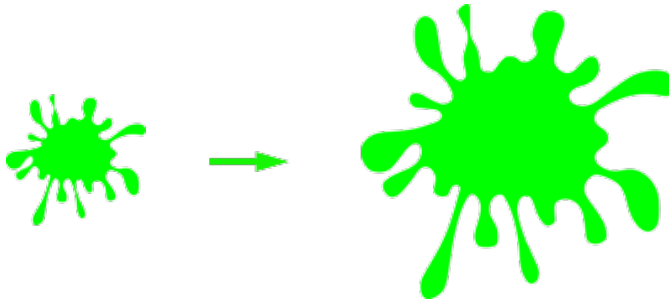
This task is about how scale factor works for shapes of 1- 2- and 3- dimensions.

Finding scale factors is different for 1-, 2-, and 3-dimensional shapes.

a) A thin piece of rubber that is 50cm long is stretched until it is 300cm long.



What is the scale factor for this enlargement?



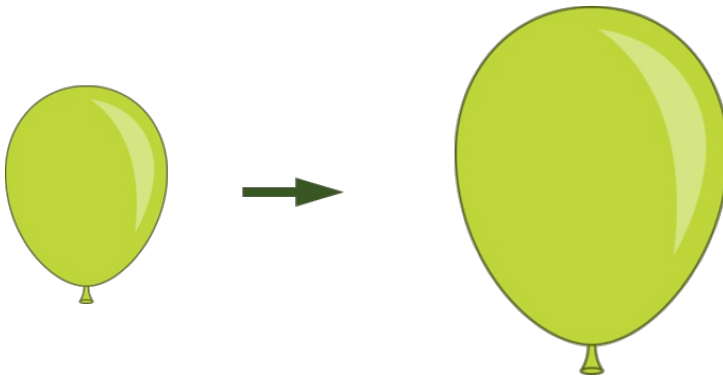
[Not drawn to scale]

b) A splat has an area of 150 mm^2 .

The image of the splat has an area of 1350 mm^2 when it is enlarged on an overhead projector.

i) How many times bigger is the area of the big splat than the area of the small splat?

ii) What is the scale factor for this enlargement?



[Not drawn to scale]

c) After a few breaths a balloon is inflated to a volume of 400 cm^3 .
When it is fully inflated it has a volume of 3200 cm^3 .

i) How many times bigger is the volume of the big balloon than the volume of the small balloon?

ii) What is the scale factor for this enlargement?