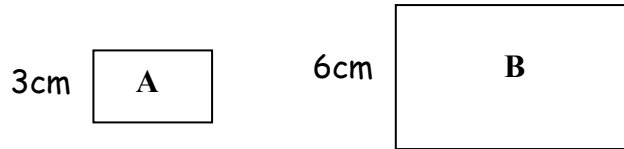


# Scale factors



1. What is the scale factor of enlargement from A to B?  
If the area of A is  $15\text{cm}^2$ , what is the area of B?
2. A square of area  $9\text{cm}^2$  is enlarged. The new square has area  $81\text{cm}^2$ . What is the scale factor of enlargement?
3. A triangle of area  $4\text{cm}^2$  is enlarged. The enlarged triangle has an area of  $16\text{cm}^2$ . What is the scale factor of enlargement?
4. A trapezium with base 2cm long and area  $2\text{cm}^2$  is enlarged. The new area is  $4.5\text{cm}^2$ . What is the base length of the enlarged shape?
5. A cuboid measures 2cm by 3cm by 5cm.
  - a) What is the volume of this cuboid?
  - b) It is enlarged by a scale factor of 2. Write down the new dimensions.
  - c) Calculate the volume of the enlarged cuboid.
  - d) What is the scale factor of the volumes?
6. The formula for the volume of a sphere is  $(4/3) \times \pi r^3$ . Calculate the volume of a sphere of radius 2cm. Enlarge the sphere by scale factor 3. What is the volume of the enlarged sphere.
7. A cube with volume  $3\text{cm}^3$  is enlarged. The enlarged cube has a volume of  $81\text{cm}^3$ . What is the scale factor of enlargement?
8. The formula for the volume of a pyramid is  $(1/3) \text{ base} \times \text{height}$ . A square based pyramid with base  $8\text{cm}^2$  and volume  $8\text{cm}^3$  is enlarged. The new pyramid has volume  $4096\text{cm}^3$ . What is the base size of the new pyramid?