

Similar Shapes: Area and Volume *ramp up*

ANSWERS

a Similar shapes have lengths 4 cm and 10 cm. Find the length scale factor. 2.5 a length scale factor that is not whole	b The length scale factor is 3. Find the area scale factor. 9 the area scale factor	c The length scale factor is 3. Find the volume scale factor. 27 the volume scale factor	d A shape has area 5 cm^2 . All its lengths are doubled. Find the new area. 20 cm^2 scaling an area
e A solid has volume 4 cm^3 . All its lengths are trebled. Find the new volume. 108 cm^3 scaling a volume	f The area scale factor is 25. Find the length scale factor. 5 a length from an area scale factor	g The volume scale factor is 8. Find the area scale factor. 4 an area from a volume scale factor	h Similar shapes have lengths in the ratio 2 : 3. Find the ratio of their areas. $4 : 9$ the ratio of the areas
i Similar solids have volumes in the ratio 8 : 125. Find the ratio of their lengths. $2 : 5$ the ratio of lengths from volumes	j Find the length scale factor if a shape's area doubles. $\sqrt{2}$ a surd scale factor	k Areas are 12 cm^2 and 75 cm^2 . The small side is 4 cm. Find the large side. 10 cm a length from two areas	l Find the large volume: surface areas 9 : 16, small volume 54 cm^3 . 128 cm^3 a volume from a ratio of areas

The Maths Habit

Similar Shapes: Area and Volume *ramp up*

ANSWERS

a Similar shapes have lengths 4 cm and 10 cm. Find the length scale factor. 2.5 a length scale factor that is not whole	b The length scale factor is 3. Find the area scale factor. 9 the area scale factor	c The length scale factor is 3. Find the volume scale factor. 27 the volume scale factor	d A shape has area 5 cm^2 . All its lengths are doubled. Find the new area. 20 cm^2 scaling an area
e A solid has volume 4 cm^3 . All its lengths are trebled. Find the new volume. 108 cm^3 scaling a volume	f The area scale factor is 25. Find the length scale factor. 5 a length from an area scale factor	g The volume scale factor is 8. Find the area scale factor. 4 an area from a volume scale factor	h Similar shapes have lengths in the ratio 2 : 3. Find the ratio of their areas. $4 : 9$ the ratio of the areas
i Similar solids have volumes in the ratio 8 : 125. Find the ratio of their lengths. $2 : 5$ the ratio of lengths from volumes	j Find the length scale factor if a shape's area doubles. $\sqrt{2}$ a surd scale factor	k Areas are 12 cm^2 and 75 cm^2 . The small side is 4 cm. Find the large side. 10 cm a length from two areas	l Find the large volume: surface areas 9 : 16, small volume 54 cm^3 . 128 cm^3 a volume from a ratio of areas

The Maths Habit