

## Similar 3D Figures

A and B are mathematically similar figures

The surface area of A =  $800\text{cm}^2$

The surface area of B =  $1800\text{cm}^2$

a) The height of B =  $45\text{cm}$ , find height of A

b) The volume of A =  $16000\text{cm}^3$  find volume of B

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	A	:	B
Area	=	800	: 1800
	=	4	: 9
Length	=	$\sqrt{4}$	: $\sqrt{9}$
	=	2	: 3
Vol	=	$2^3$	: $3^3$
	=	8	: 27

$$\text{Height of A} = \text{Height of B} \times \frac{2}{3}$$

$$= 45 \times \frac{2}{3} = 30\text{cm}$$

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$$\text{Vol of B} = \text{Vol of A} \times \frac{27}{8} = 16000 \times \frac{27}{8} = 54000\text{cm}^3$$

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