

Complete the table.

	Edge Length in units	Expression for volume in cubic units	Volume in cubic units	Expression for surface area in square units	S.A. in square units
a.	2				
b.		4^3			
c.			27		
d.				6.5^2	
e.					600
f.	S				

More Practice with Volume

Complete the tables.

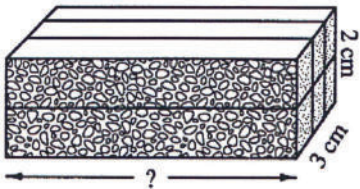
	Edge Length in units	Expression for volume in cubic units	Volume in cubic units
a.	1		1
b.		2^3	
c.	4		

d.			125
e.		10^3	

What happens to the volume when the edge length doubles?

If you know the length, width, and height of a rectangular prism, you can calculate its volume.
If you know the volume and two of the dimensions, you can calculate the missing dimension.

The box below is a sketch. The total volume of the box is 48 cm^3 . The height of the box is 2 cm and the width is 3 cm.



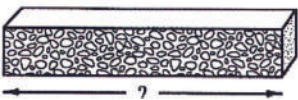
Here is how we can find the length:

1. Divide the box's volume by its height to find the volume of one layer.



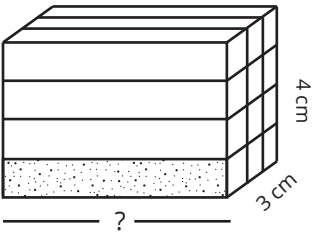
One layer is 24 cm^3 .

2. Divide the volume of this layer by the width to find the length.



The length is 8 cm.

You try. The volume of a box is 60 cm^3 . The height is 4 cm and the length is 3 cm. Find the width.



More Practice with Surface Area

Complete the tables.

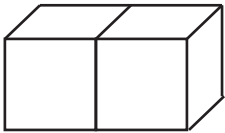
	Edge Length in units	Expression for surface area in square units	S.A. in square units
a.	1		6
b.			24
c.	4		

d.		$6 \cdot 5^2$	
e.			600

What happens to the surface area when the edge length doubles?

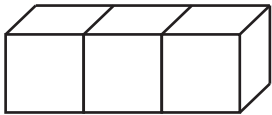
Challenge Problems:

1. Two cubes with edge length 5 cm are joined together to form a rectangular prism, like this:



- $6 \cdot 5^2$ isn't the expression for the surface area of this figure, because it doesn't have six square faces showing.
- a. How many square faces are showing? ____
 - b. Write a correct expression for surface area using an exponent.
 - c. Work out the surface area.

2. Three identical cubes are joined together to form a rectangular prism, as shown.



The surface area of the rectangular prism is 504 sq. cm.

What is the edge length of each cube?