MATH

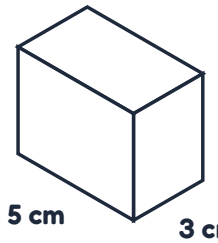
Volume of rectangular prisms

Name _____ Date _____

I can use a formula to find volume.

1 How it works

The volume of a box is length × width × height. For a box 5 cm long, 3 cm wide and 4 cm tall: 5 × 3 × 4 = 60. The answer is in cubic units, here cm^3. To find a missing side, divide the volume by the two sides you know. For a shape made of two boxes, find each volume and add.



$V = l \times w \times h$

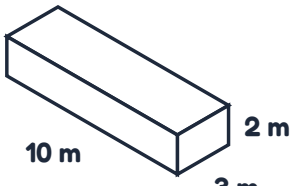
$5 \times 3 \times 4$

$= 60\ cm^3$

2 Find the volume

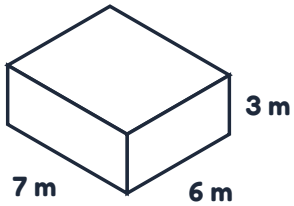
V = length × width × height

1.



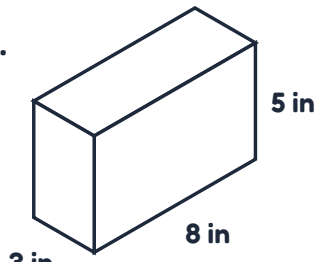
V = _____ m^3

2.



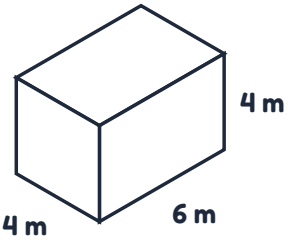
V = _____ m^3

3.



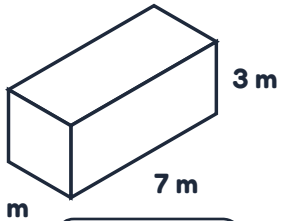
V = _____ in^3

4.



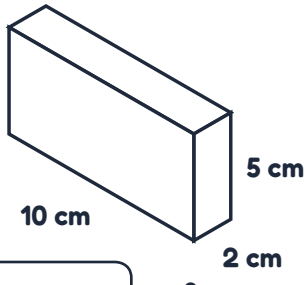
V = _____ m^3

5.



V = _____ m^3

6.



V = _____ cm^3

How did I do? ☆ ☆ ☆

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Volume tables and missing sides

Name _____ Date _____

I can use the volume formula both ways.

1 Complete the table

Length	Width	Height	Volume
7	7	10	
8	3	2	
4	8	7	
15	7	6	
13	10	7	
9	4	8	
2	6	8	
7	9	9	

2 Find the missing side

Divide the volume by the two sides you know.

1. $V = 48\ in^3$, $l = 3\ in$, $w = 4\ in$, $h =$ ____ in

2. $V = 98\ m^3$, $l = 2\ m$, $w = 7\ m$, $h =$ ____ m

3. $V = 108\ cm^3$, $l = 2\ cm$, $w = 6\ cm$, $h =$ ____ cm

4. $V = 300\ ft^3$, $l = 10\ ft$, $w = 6\ ft$, $h =$ ____ ft

How did I do? ☆ ☆ ☆

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MATH · VOLUME OF RECTANGULAR PRISMS

Two boxes together

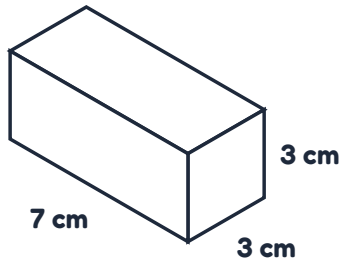
Name _____ Date _____

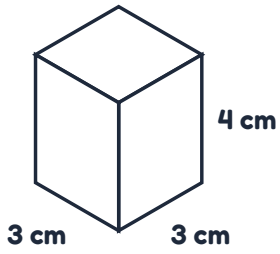
I can find the volume of a shape made of two boxes.

1 Find each volume, then add

Volume is additive: box 1 + box 2.

1.



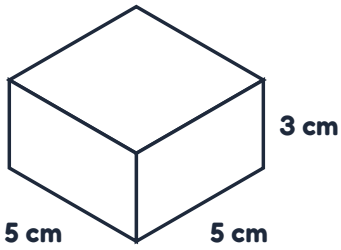


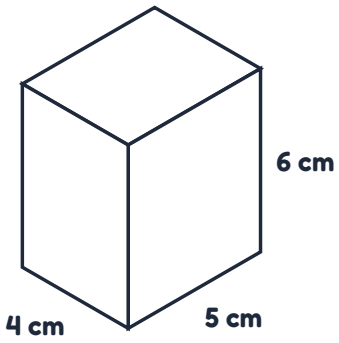
Box 1: _____ cm³

Box 2: _____ cm³

Total: _____ cm³

2.





Box 1: _____ cm³

Box 2: _____ cm³

Total: _____ cm³

3 Think about it

1. If you double the length of a box, what happens to its volume? _____
2. A cube has sides of 4 cm. What is its volume? _____
3. Give two different boxes with a volume of 24 cubic units. _____

How did I do? ☆ ☆ ☆

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Word problems

Name _____ Date _____

I can use geometry to solve problems.

1 Read, think, answer

Draw a picture in the box.

1 A fish tank is 50 cm long, 30 cm wide and 40 cm tall. What is its volume?

Answer: _____

2 Mia's shoe box is 12 in long, 7 in wide and 5 in tall. How many cubic inches does it hold?

Answer: _____

3 A box has a volume of 72 ft^3. It is 6 ft long and 3 ft wide. How tall is it?

Answer: _____

4 Sam stacks two boxes: one is 4 × 3 × 2 m and the other is 2 × 3 × 2 m. What is the total volume?

Answer: _____

How did I do? ☆ ☆ ☆

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FOR TEACHERS AND PARENTS

Answer key: volume of rectangular prisms

1 Page 1

Volume: 1) 10 × 3 × 2 = 60 m^3; 2) 7 × 6 × 3 = 126 m^3; 3) 3 × 8 × 5 = 120 in^3; 4) 4 × 6 × 4 = 96 m^3; 5) 3 × 7 × 3 = 63 m^3; 6) 10 × 2 × 5 = 100 cm^3.

2 Page 2

Table: 1) 490; 2) 48; 3) 224; 4) 630; 5) 910; 6) 288; 7) 96; 8) 567.

Missing side: 1) 4 in; 2) 7 m; 3) 9 cm; 4) 5 ft.

3 Page 3

Two boxes: 1) 63 + 36 = 99 cm^3; 2) 75 + 120 = 195 cm^3.

Think: 1) It doubles; 2) 64 cm^3; 3) For example 2 × 3 × 4 and 1 × 4 × 6.

4 Page 4: word problems

1) 50 × 30 × 40 = 60,000 cm^3

2) 12 × 7 × 5 = 420 in^3

3) 72 ÷ (6 × 3) = 4 ft

4) 24 + 12 = 36 m^3

5 Teaching tip

Connect the formula to layers: length × width is the number of cubes in one layer, and height is the number of layers. Children who see this rarely mix up area and volume.

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