LESSON MAKER PRO

Fraction Prism Power

Find volume with fractional edge lengths.

GRADE 6 · NY-6.G.2

NY-6.G.2 "Find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems."

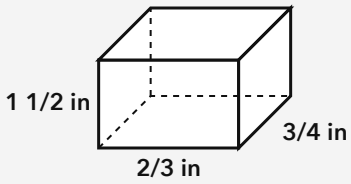
NAME _____ DATE _____

VOLUME OF A PRISM

For a right rectangular prism, multiply the length, width, and height to find volume: V = l × w × h. Multiply the fractions, simplify when you can, and label the answer in cubic units.

WORKED EXAMPLE

Find the volume of the prism: length 2/3 inch, width 3/4 inch, and height 1 1/2 inches.

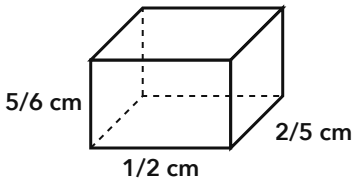


1. V = l × w × h
2. V = 2/3 × 3/4 × 1 1/2
3. V = 2/3 × 3/4 × 3/2 = 3/4

Answer: 3/4 in^3

PRACTICE 6 problems

1 Find the volume of the prism: length 1/2 cm, width 2/5 cm, and height 5/6 cm.



ANSWER _____

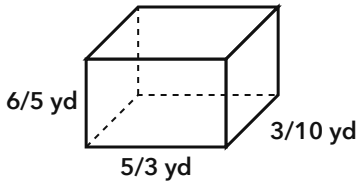
2 A right rectangular prism has a length of 3/5 m, a width of 4/5 m, and a height of 5/4 m. Find its volume.

ANSWER _____

3 Find the volume of a right rectangular prism with edge lengths 7/8 ft, 2/7 ft, and 4/9 ft.

ANSWER _____

4 Find the volume of the prism: length 5/3 yd, width 3/10 yd, and height 6/5 yd.



ANSWER _____

5 A right rectangular prism has edge lengths 5/4 in, 4/7 in, and 7/5 in. Find its volume.

ANSWER _____

6 Find the volume of a right rectangular prism with a length of 9/10 cm, a width of 10/9 cm, and a height of 8/11 cm.

ANSWER _____

APPLY IT Show your work

1 A 3-D printing club makes a small rectangular nameplate. The nameplate is 7/10 in long, 5/6 in wide, and 12/7 in high. What is its volume?

WORK SPACE

ANSWER _____

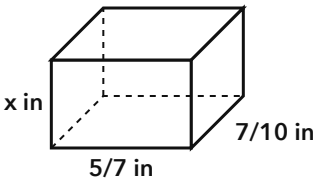
2 The inside of a rectangular pencil case is 7/2 in long, 2/5 in wide, and 3/7 in high. What volume of supplies can fit inside?

WORK SPACE

ANSWER _____

CHALLENGE One step up

The prism has length 5/7 inch, width 7/10 inch, height x inches, and volume 35/36 cubic inch. Find x. Explain how you used the two known edge lengths.



WORK SPACE AND ANSWER

ANSWER KEY

Fraction Prism Power

GRADE 6 · NY-6.G.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the volume of the prism: length 1/2 cm, width 2/5 cm, and height 5/6 cm.	**1/6 cm^3**
2	A right rectangular prism has a length of 3/5 m, a width of 4/5 m, and a height of 5/4 m. Find its volume.	**3/5 m^3**
3	Find the volume of a right rectangular prism with edge lengths 7/8 ft, 2/7 ft, and 4/9 ft.	**1/9 ft^3**
4	Find the volume of the prism: length 5/3 yd, width 3/10 yd, and height 6/5 yd.	**3/5 yd^3**
5	A right rectangular prism has edge lengths 5/4 in, 4/7 in, and 7/5 in. Find its volume.	**1 in^3**
6	Find the volume of a right rectangular prism with a length of 9/10 cm, a width of 10/9 cm, and a height of 8/11 cm.	**8/11 cm^3**

PART 2 · APPLY IT

1. **1 in^3** Multiply 7/10 × 5/6 × 12/7. Cancel common factors to get 1 cubic inch.
2. **3/5 in^3** Multiply 7/2 × 2/5 × 3/7. Cancel the 7s and the 2s, then multiply to get 3/5 cubic inch.

CHALLENGE

x = 35/18 in, because (5/7) × (7/10) = 1/2, so x/2 = 35/36.

Accept equivalent simplified or unsimplified fraction forms when they have the correct value and cubic units. For the challenge, accept a correct equation such as (5/7)(7/10)x = 35/36 with x = 35/18.