LESSON MAKER PRO

Prism Space Quest

Find volume with fractions and mixed numbers.

GRADE 6 · MA.6.GR.2.3

MA.6.GR.2.3 "Solve mathematical and real-world problems involving the volume of right rectangular prisms with positive rational number edge lengths using a visual model and a formula."

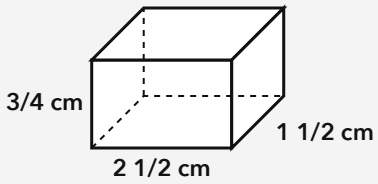
NAME _____ DATE _____

VOLUME OF A PRISM

Volume tells how much space is inside a right rectangular prism. Multiply the three edge lengths: V = l × w × h. Change mixed numbers to improper fractions before multiplying when that makes the work easier.

WORKED EXAMPLE

Find the volume of the prism shown.

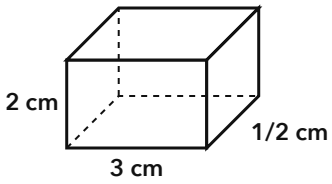


1. V = l × w × h.
2. 2 1/2 = 5/2 and 1 1/2 = 3/2.
3. V = 5/2 × 3/2 × 3/4.
4. V = 45/16 = 2 13/16.

Answer: 2 13/16 cm³

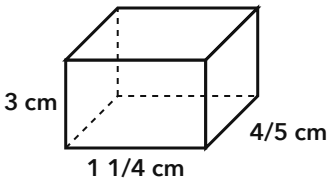
PRACTICE 4 problems

1 Find the volume of the prism shown.



ANSWER _____

2 Find the volume of the prism shown.



ANSWER _____

3 A right rectangular prism has edge lengths 2/3 m, 3/5 m, and 5/2 m. Find its volume.

ANSWER _____

4 Find the volume of a right rectangular prism with edge lengths 7/4 in., 6/5 in., and 4/7 in.

ANSWER _____

APPLY IT Show your work

1 A skate shop ships a rectangular deck box that is 4 1/2 ft long, 2/5 ft wide, and 5/6 ft high. What is its volume?

WORK SPACE

ANSWER _____

2 A game club stores cards in a rectangular bin that is 5/4 yd long, 8/3 yd wide, and 9/10 yd high. What is its volume?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A right rectangular prism has a volume of 7/3 cm^3. Its length is 7/6 cm and its width is 2/5 cm. Find its height. Explain with an equation.

WORK SPACE AND ANSWER

ANSWER KEY

Prism Space Quest

GRADE 6 · MA.6.GR.2.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the volume of the prism shown.	**3 cm^3**
2	Find the volume of the prism shown.	**3 cm^3**
3	A right rectangular prism has edge lengths 2/3 m, 3/5 m, and 5/2 m. Find its volume.	**1 m^3**
4	Find the volume of a right rectangular prism with edge lengths 7/4 in., 6/5 in., and 4/7 in.	**6/5 $in.^3$**

PART 2 · APPLY IT

1. **3/2 ft^3** Multiply the three edge lengths: 4 1/2 × 2/5 × 5/6 = 3/2.
2. **3 yd^3** Multiply the edge lengths: 5/4 × 8/3 × 9/10 = 3.

CHALLENGE

The height is 5 cm because (7/6) × (2/5) × 5 = 7/3.

Accept equivalent fraction or mixed-number forms for volume. For the challenge, accept a correct equation showing that the height is 5 cm.