LESSON MAKER PRO

Fraction Prism Lab

Find volume from a fractional base and height.

GRADE 6 · 6.GSR.5.3

6.GSR.5.3 "Calculate the volume of right rectangular prisms with fractional edge lengths by applying the formula, V = (area of base) x (height)."

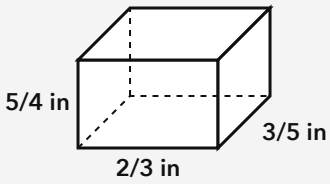
NAME _____ DATE _____

BUILD THE VOLUME

First multiply the length and width to find the area of the base. Then multiply the base area by the height. Write volume in cubic units.

WORKED EXAMPLE

Find the volume of the prism shown.

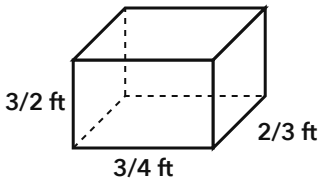


1. Base area = 2/3 x 3/5 = 2/5 in^2.
2. Volume = 2/5 x 5/4.
3. V = 1/2 in^3.
4.

Answer: 1/2 in^3

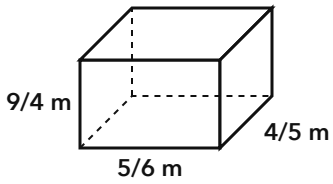
PRACTICE 4 problems

1 Find the volume of the prism shown.



ANSWER _____

2 Find the volume of the prism shown.



ANSWER _____

3 A rectangular prism is 7/8 yd long, 2/7 yd wide, and 3/5 yd high. Find its volume.

ANSWER _____

4 A rectangular prism is 1 1/2 in long, 2/3 in wide, and 3/4 in high. Find its volume.

ANSWER _____

APPLY IT Show your work

1 A maker club builds a rectangular display case that is 5/6 m long, 3/4 m wide, and 2/5 m high. What is its volume?

WORK SPACE

ANSWER _____

2 A card collector uses a rectangular storage bin that is 7/10 ft long, 3/5 ft wide, and 5/7 ft high. What is its volume?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Prism A is 3/4 in by 2/3 in by 5/6 in. Prism B is 3/5 in by 5/6 in by 3/4 in. Which prism has the greater volume? Explain using both volumes.

WORK SPACE AND ANSWER

ANSWER KEY

Fraction Prism Lab

GRADE 6 · 6.GSR.5.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the volume of the prism shown.	**3/4 ft^3**
2	Find the volume of the prism shown.	**3/2 m^3**
3	A rectangular prism is 7/8 yd long, 2/7 yd wide, and 3/5 yd high. Find its volume.	**3/20 yd^3**
4	A rectangular prism is 1 1/2 in long, 2/3 in wide, and 3/4 in high. Find its volume.	**3/4 in^3**

PART 2 · APPLY IT

1. **1/4 m^3** Multiply the base dimensions: 5/6 x 3/4 = 5/8 m^2. Then multiply by 2/5 m to get 1/4 m^3.
2. **3/10 ft^3** The base area is 7/10 x 3/5 = 21/50 ft^2. Multiply by 5/7 ft to get 3/10 ft^3.

CHALLENGE

Prism A has the greater volume. Prism A = 5/12 in^3; Prism B = 3/8 in^3. Since 5/12 = 10/24 and 3/8 = 9/24, Prism A is greater by 1/24 in^3.

Accept equivalent fractions and mixed-number forms for all volumes. For the challenge, accept a correct comparison supported by both calculated volumes or equivalent fractions.