

Build It Up

Add prism volumes to find one total.

GRADE 5 • 5.MD.C.5c

CCSS.Math.Content.5.MD.C.5c "Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems."

NAME _____

DATE _____

ADD THE PARTS

For each right rectangular prism, multiply length x width x height. When the prisms do not overlap, add their volumes and label the answer in cubic units.

WORKED EXAMPLE

A solid has non-overlapping parts:
2 cm x 3 cm x 4 cm and 2 cm x 3 cm
x 5 cm. Find its volume.

1. First part: $2 \times 3 \times 4 = 24$ cubic cm.
2. Second part: $2 \times 3 \times 5 = 30$ cubic cm.
3. Add: $24 + 30 = 54$ cubic cm.

Answer: 54 cubic cm

PRACTICE 5 problems

- 1** Find the total volume: 6 cm x 7 cm x 8 cm
and 6 cm x 7 cm x 9 cm.

ANSWER _____

- 2** Find the total volume: 6 cm x 8 cm x 9 cm
and 7 cm x 8 cm x 9 cm.

ANSWER _____

- 3** Find the total volume: 6 cm x 6 cm x 7 cm
and 6 cm x 7 cm x 8 cm.

ANSWER _____

- 4** Find the total volume: 7 cm x 7 cm x 8 cm
and 7 cm x 8 cm x 9 cm.

ANSWER _____

- 5** Find the total volume: 6 cm x 9 cm x 9 cm
and 7 cm x 9 cm x 9 cm.

ANSWER _____

APPLY IT Show your work

- 1** A game club makes a blocky trophy from two non-overlapping rectangular-prism sections. One section is 8 cm x 6 cm x 7 cm. The other is 8 cm x 6 cm x 9 cm. What is the trophy's volume?

WORK SPACE

ANSWER _____

- 2** A makers club builds a display from two non-overlapping rectangular prisms. One part is 7 cm x 8 cm x 9 cm. The other part is 7 cm x 9 cm x 10 cm. What is the display's volume?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A solid has two non-overlapping parts. Part A is 8 cm x 9 cm x 10 cm. Part B is 8 cm x 12 cm x x cm. The total volume is 1,872 cubic cm. Find x.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Find the total volume: 6 cm x 7 cm x 8 cm and 6 cm x 7 cm x 9 cm.	714 cubic cm
2	Find the total volume: 6 cm x 8 cm x 9 cm and 7 cm x 8 cm x 9 cm.	936 cubic cm
3	Find the total volume: 6 cm x 6 cm x 7 cm and 6 cm x 7 cm x 8 cm.	588 cubic cm
4	Find the total volume: 7 cm x 7 cm x 8 cm and 7 cm x 8 cm x 9 cm.	896 cubic cm
5	Find the total volume: 6 cm x 9 cm x 9 cm and 7 cm x 9 cm x 9 cm.	1,053 cubic cm

PART 2 • APPLY IT

1. **768 cubic cm** The section volumes are 336 cubic cm and 432 cubic cm. Add $336 + 432 = 768$ cubic cm.
2. **1,134 cubic cm** The part volumes are 504 cubic cm and 630 cubic cm. Add $504 + 630 = 1,134$ cubic cm.

CHALLENGE

x = 12 cm

Accept cubic centimeters or cm^3 . Students may show the two prism volumes in either order before adding.