

Space and Borders

Use area, perimeter, and volume to solve measurement problems.

GRADE 5 • TEKS 5.4.H

5.4.H "represent and solve problems related to perimeter and/or area and related to volume."

NAME _____

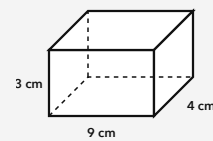
DATE _____

MEASURE WHAT YOU NEED

Area tells how much flat space is inside a shape, so multiply a rectangle's length by its width. Perimeter tells the distance around a shape, so add all its side lengths. Volume tells how much space is inside a rectangular prism, so multiply its length, width, and height.

WORKED EXAMPLE

Find the volume of the rectangular prism shown.



1. Volume = length $\times$ width $\times$ height.

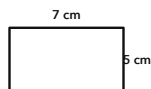
2. $9 \times 4 = 36$.

3. $36 \times 3 = 108$.

Answer: 108 cm³

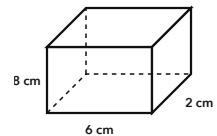
PRACTICE 6 problems

- 1** Find the area of the rectangle shown.



ANSWER _____

- 2** Find the volume of the rectangular prism shown.



ANSWER _____

- 3** A rectangle is 11 m long and 6 m wide. Find its perimeter.

ANSWER _____

- 4** A rectangle is 13 cm long and 7 cm wide. Find its area.

ANSWER _____

- 5** A rectangular prism has a length of 10 in., a width of 5 in., and a height of 6 in. Find its volume.

ANSWER _____

- 6** A rectangular dog park is 14 yd long and 8 yd wide. Find the length of fencing needed to go all the way around it.

ANSWER _____

APPLY IT Show your work

- 1** The gaming club is packing controllers in a rectangular storage bin. The bin is 12 in. long, 5 in. wide, and 7 in. high. How much space is inside the bin?

WORK SPACE

ANSWER _____

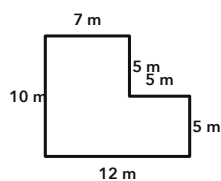
- 2** Maya is making a rectangular poster for the school art fair. The poster is 15 in. long and 8 in. wide. What is its area, and how much ribbon is needed to go around its edge?

WORK SPACE

ANSWER _____

CHALLENGE One step up

The L-shaped patio is shown. Find its area and its perimeter.



WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Find the area of the rectangle shown.	35 cm²
2	Find the volume of the rectangular prism shown.	96 cm³
3	A rectangle is 11 m long and 6 m wide. Find its perimeter.	34 m
4	A rectangle is 13 cm long and 7 cm wide. Find its area.	91 cm²
5	A rectangular prism has a length of 10 in., a width of 5 in., and a height of 6 in. Find its volume.	300 in.³
6	A rectangular dog park is 14 yd long and 8 yd wide. Find the length of fencing needed to go all the way around it.	44 yd

PART 2 • APPLY IT

1. **420 in.³** Multiply the three dimensions: $12 \times 5 \times 7 = 420$.
2. **120 in.²; 46 in.** Multiply 15×8 to find the area. Add $15 + 8 + 15 + 8$ to find the perimeter.

CHALLENGE

Area: 95 m²; Perimeter: 44 m

Accept equivalent unit wording, such as square centimeters for cm² and cubic inches for in.³. For the challenge, students may find the area by subtracting the missing rectangular corner from a larger rectangle.