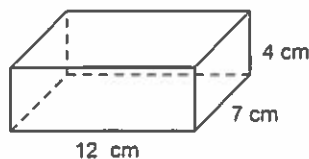


## Volume of Rectangular Prisms

### Multiple Choice

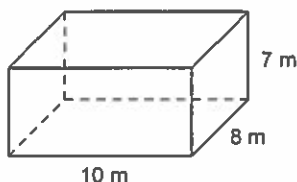
Identify the choice that best completes the statement or answers the question.

- \_\_\_\_\_ 1. Find the volume of this rectangular prism.



- a.  $160 \text{ cm}^3$       b.  $138 \text{ cm}^3$       c.  $336 \text{ cm}^3$       d.  $320 \text{ cm}^3$

- \_\_\_\_\_ 2. Find the volume of this rectangular prism.



- a.  $412 \text{ m}^3$       b.  $100 \text{ m}^3$       c.  $206 \text{ m}^3$       d.  $560 \text{ m}^3$

- \_\_\_\_\_ 3. A right rectangular prism measures 9 cm by 7 cm by 10 cm. What is the volume of the prism?

- a.  $630 \text{ cm}^3$       b.  $104 \text{ cm}^3$       c.  $223 \text{ cm}^3$       d.  $156 \text{ cm}^3$

- \_\_\_\_\_ 4. The length of one edge of a cube is 5 cm. What is the volume of the cube?

- a.  $150 \text{ cm}^3$       b.  $125 \text{ cm}^3$       c.  $60 \text{ cm}^3$       d.  $75 \text{ cm}^3$

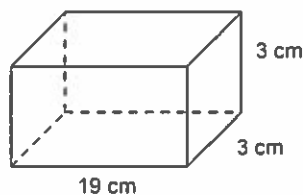
- \_\_\_\_\_ 5. A square prism is 12 cm tall. The side length of the square base is 5 cm.

What is the volume of the prism?

- a.  $88 \text{ cm}^3$       b.  $300 \text{ cm}^3$       c.  $85 \text{ cm}^3$       d.  $240 \text{ cm}^3$

### Short Answer

6. Find the volume of this square prism.

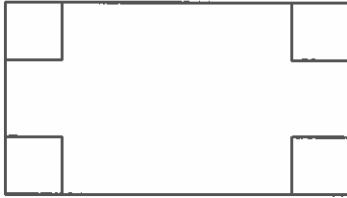


7. A right rectangular prism has a length 7.5 cm, width 3 cm, and height 4 cm. Find the volume and surface area of the prism.

Name: \_\_\_\_\_

ID: A

8. A rectangular aquarium contains  $7200 \text{ cm}^3$  of water.  
The length of the aquarium is 24 cm and its width is 25 cm.  
What is the depth of water in the aquarium?
9. If each of the length, width, and height of a rectangular prism is doubled, what happens to the volume?
10. A rectangular sheet of cardboard measures 20 cm by 16 cm.  
To form the net of an open box, a 4-cm square is cut from each of the 4 corners of the cardboard.  
What will be the volume of the box made?



## Volume of Rectangular Prisms

### Answer Section

#### MULTIPLE CHOICE

1. ANS: C                   PTS: 1                   DIF: Easy  
REF: 4.5 Volume of a Right Rectangular Prism                   LOC: 8.SS4  
TOP: Shape and Space (Measurement)                   KEY: Conceptual Understanding
2. ANS: D                   PTS: 1                   DIF: Easy  
REF: 4.5 Volume of a Right Rectangular Prism                   LOC: 8.SS4  
TOP: Shape and Space (Measurement)                   KEY: Conceptual Understanding
3. ANS: A                   PTS: 1                   DIF: Easy  
REF: 4.5 Volume of a Right Rectangular Prism                   LOC: 8.SS4  
TOP: Shape and Space (Measurement)                   KEY: Conceptual Understanding
4. ANS: B                   PTS: 1                   DIF: Easy  
REF: 4.5 Volume of a Right Rectangular Prism                   LOC: 8.SS4  
TOP: Shape and Space (Measurement)                   KEY: Conceptual Understanding
5. ANS: B                   PTS: 1                   DIF: Moderate  
REF: 4.5 Volume of a Right Rectangular Prism                   LOC: 8.SS4  
TOP: Shape and Space (Measurement)                   KEY: Conceptual Understanding

#### SHORT ANSWER

6. ANS:  
The volume is 171 cm<sup>3</sup>.  
  
PTS: 1                   DIF: Easy                   REF: 4.5 Volume of a Right Rectangular Prism  
LOC: 8.SS4                   TOP: Shape and Space (Measurement)                   KEY: Conceptual Understanding
7. ANS:  
The volume is 90 cm<sup>3</sup>.  
The surface area is 129 cm<sup>2</sup>.  
  
PTS: 1                   DIF: Moderate                   REF: 4.5 Volume of a Right Rectangular Prism  
LOC: 8.SS4                   TOP: Shape and Space (Measurement)  
KEY: Conceptual Understanding | Procedural Knowledge
8. ANS:  
The water is 12 cm deep.  
  
PTS: 1                   DIF: Moderate                   REF: 4.5 Volume of a Right Rectangular Prism  
LOC: 8.SS4                   TOP: Shape and Space (Measurement)                   KEY: Problem-solving Skills
9. ANS:  
The new volume equals the original volume multiplied by 8.  
  
PTS: 1                   DIF: Difficult                   REF: 4.5 Volume of a Right Rectangular Prism  
LOC: 8.SS4                   TOP: Shape and Space (Measurement)  
KEY: Communication | Problem-solving Skills

10. ANS:

The volume of the box will be  $384 \text{ cm}^3$ .

PTS: 1                      DIF: Difficult                      REF: 4.5 Volume of a Right Rectangular Prism

LOC: 8.SS4                      TOP: Shape and Space (Measurement)

KEY: Procedural Knowledge | Problem-solving Skills