

Volume of Rectangular Prisms

Geometry · Grade 5

Score: _____ / 10

● Easy · 10 Questions

Solve each problem. Show your work in the space provided. Write your answer on the line.

1. Find the volume of a rectangular prism:

length = 4 cm, width = 3 cm, height = 2 cm

Answer: _____

2. Find the volume of a cube with side length 5 cm.

Answer: _____

3. A box is 10 cm long, 6 cm wide, and 4 cm tall. What is its volume?

Answer: _____

4. Find the volume of a rectangular prism with $l=7$, $w=3$, $h=5$ (inches).

Answer: _____

5. A cube has volume 64 cm^3 . What is the side length?

Answer: _____

6. A fish tank is $30\text{ cm} \times 15\text{ cm} \times 20\text{ cm}$. How many cm^3 of water does it hold?

Answer: _____

7. A rectangular prism has volume 60 cm^3 . Its length is 5 cm and width is 4 cm . Find the height.

Answer: _____

8. Find the volume of a cube with side 8 m .

Answer: _____

9. A storage container is 2 m long, 1.5 m wide, and 1 m tall. What is its volume?

Answer: _____

10. Which has greater volume: a cube with side 3 cm, or a rectangular prism $4 \times 3 \times 2$ cm?

Answer: _____

Answer Key

Volume of Rectangular Prisms — Easy

1. **24 cm³**

$$V = l \times w \times h = 4 \times 3 \times 2 = 24 \text{ cm}^3.$$

2. **125 cm³**

$$V = s^3 = 5^3 = 5 \times 5 \times 5 = 125 \text{ cm}^3.$$

3. **240 cm³**

$$V = 10 \times 6 \times 4 = 240 \text{ cm}^3.$$

4. **105 in³**

$$V = 7 \times 3 \times 5 = 105 \text{ in}^3.$$

5. **4 cm**

$$V = s^3. 4^3=64. \text{ Side} = 4 \text{ cm}.$$

6. **9,000 cm³**

$$V = 30 \times 15 \times 20 = 9,000 \text{ cm}^3.$$

7. **3 cm**

$$V = l \times w \times h. 60 = 5 \times 4 \times h = 20h. h = 60 \div 20 = 3 \text{ cm}.$$

8. **512 m³**

$$V = 8^3 = 8 \times 8 \times 8 = 512 \text{ m}^3.$$

9. **3 m³**

$$V = 2 \times 1.5 \times 1 = 3 \text{ m}^3.$$

10. **The cube (27 cm³ > 24 cm³)**

Cube: $3^3=27 \text{ cm}^3$. Prism: $4 \times 3 \times 2=24 \text{ cm}^3$. Cube is greater.