



Volume of Rectangular Prisms

Name: _____

Date: _____

Grade: Grade 5

Part A: Multiple Choice

Circle the best answer for each question.

1. A prism is $5 \times 4 \times 6$ cm. If the width is doubled, what is the new volume?

- A) 120 cm^3
- B) 240 cm^3
- C) 480 cm^3
- D) 360 cm^3

2. A rectangular box holds exactly 300 cm^3 . Which set of dimensions could be correct?

- A) $10 \times 6 \times 5$ cm
- B) $10 \times 5 \times 5$ cm
- C) $15 \times 5 \times 3$ cm
- D) $12 \times 5 \times 6$ cm

3. A warehouse floor is $20 \text{ m} \times 15 \text{ m}$. Crates stacked 4 m high fill the entire space. What is the total volume?

- A) 300 m^3
- B) 600 m^3
- C) $1,200 \text{ m}^3$
- D) $1,500 \text{ m}^3$

4. Prism P is $6 \times 8 \times 3$ cm and Prism Q is $9 \times 4 \times 3$ cm. How do their volumes compare?

- A) P is larger by 36 cm^3
- B) Q is larger by 36 cm^3
- C) They are equal
- D) P is larger by 12 cm^3

Part B: Fill in the Blank

Write the correct answer on each line.

1. A prism is $4 \text{ cm} \times 5 \text{ cm} \times 3 \text{ cm}$. If every dimension is doubled, the new volume is _____ cm^3 .

2. A freezer is $5 \text{ ft} \times 3 \text{ ft} \times 2 \text{ ft}$. Two identical freezers have a combined volume of _____ ft^3 .

3. A rectangular garden bed is 10 ft long and 4 ft wide. To hold 120 ft^3 of soil, it must be _____ ft deep.

4. A cube has a volume of 512 cm^3 . Each edge is _____ cm long.

5. A T-shaped solid has a bottom piece $10 \times 4 \times 2$ cm and a top piece $4 \times 4 \times 3$ cm. Its total volume is _____ cm^3 .

Answer Key • Volume of Rectangular Prisms • Grade: Grade 5

Part A: Multiple Choice

Circle the best answer for each question.

1. A prism is $5 \times 4 \times 6$ cm. If the width is doubled, what is the new volume?

- A) 120 cm^3
- B) 240 cm^3
- C) 480 cm^3
- D) 360 cm^3

2. A rectangular box holds exactly 300 cm^3 . Which set of dimensions could be correct?

- A) $10 \times 6 \times 5 \text{ cm}$
- B) $10 \times 5 \times 5 \text{ cm}$
- C) $15 \times 5 \times 3 \text{ cm}$
- D) $12 \times 5 \times 6 \text{ cm}$

3. A warehouse floor is $20 \text{ m} \times 15 \text{ m}$. Crates stacked 4 m high fill the entire space. What is the total volume?

- A) 300 m^3
- B) 600 m^3
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- D) $1,500 \text{ m}^3$

4. Prism P is $6 \times 8 \times 3$ cm and Prism Q is $9 \times 4 \times 3$ cm. How do their volumes compare?

- A) P is larger by 36 cm^3
- B) Q is larger by 36 cm^3
- C) They are equal
- D) P is larger by 12 cm^3

Part B: Fill in the Blank

Write the correct answer on each line.

1. A prism is $4 \text{ cm} \times 5 \text{ cm} \times 3 \text{ cm}$. If every dimension is doubled, the new volume is 480 cm^3 .

2. A freezer is $5 \text{ ft} \times 3 \text{ ft} \times 2 \text{ ft}$. Two identical freezers have a combined volume of 60 ft^3 .

3. A rectangular garden bed is 10 ft long and 4 ft wide. To hold 120 ft^3 of soil, it must be 3 ft deep.

4. A cube has a volume of 512 cm^3 . Each edge is 8 cm long.

5. A T-shaped solid has a bottom piece $10 \times 4 \times 2$ cm and a top piece $4 \times 4 \times 3$ cm. Its total volume is 128 cm^3 .