



THIRD SPACE
LEARNING

Volume of a rectangular prism Worksheet

Geometry

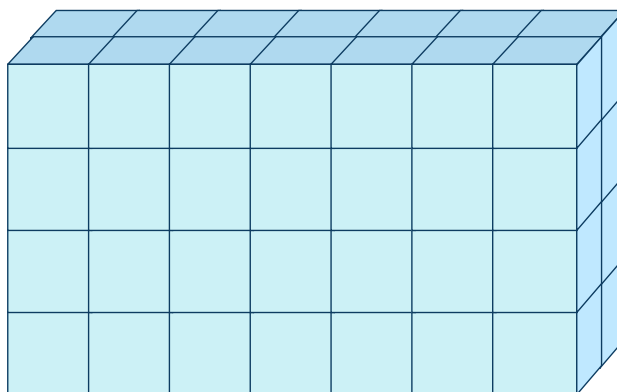
Grades 4 to 5

Skill Questions

Name:

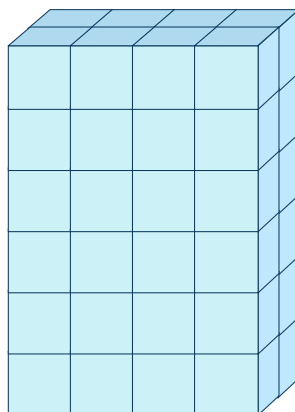
Date:

- 1 Each cube has a side length of 1 inch. Find the volume of the rectangular prism.



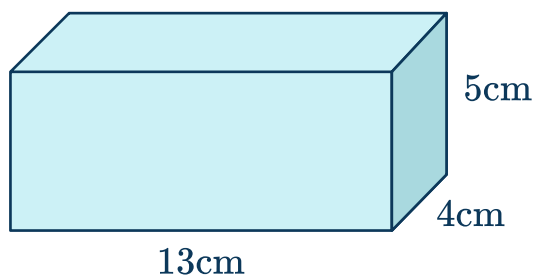
Answer

- 2 Each cube has a side length of 1 ft. Find the volume of the rectangular prism.



Answer

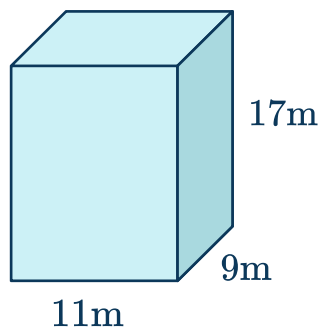
- 3 Calculate the volume of the rectangular prism.



Answer

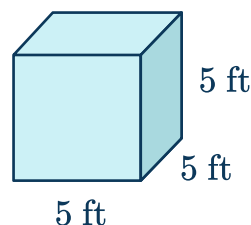
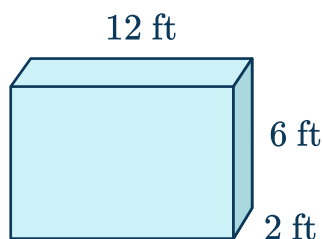
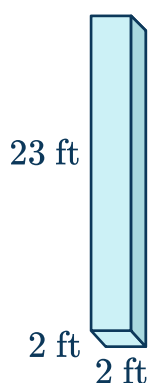
Volume of a rectangular prism Worksheet | Grades 4 to 5

- 4 Calculate the volume of the rectangular prism.

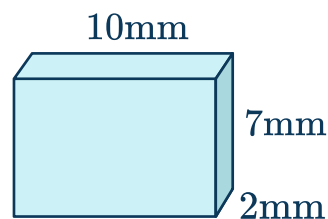
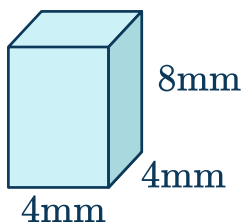
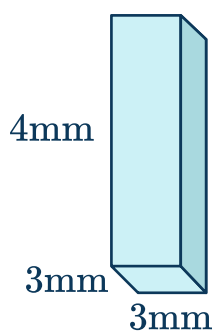


Answer

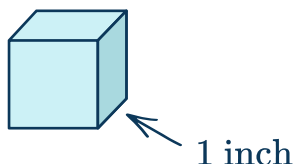
- 5 Circle the rectangular prism with the largest volume.



- 6 Circle the rectangular prism with the smallest volume.



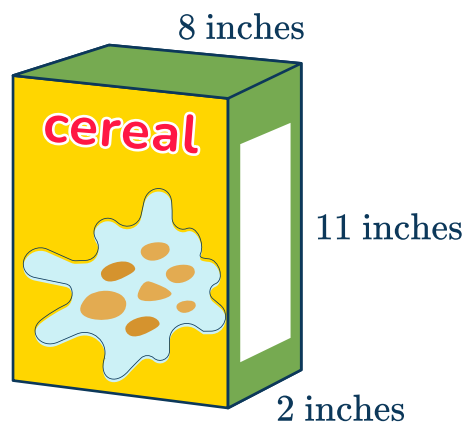
7



Simon has a collection of 25 erasers. Each eraser is a cube with a side length of 1 inch. If he has a box that perfectly fits all the erasers, what is the volume of the box?

Answer

8



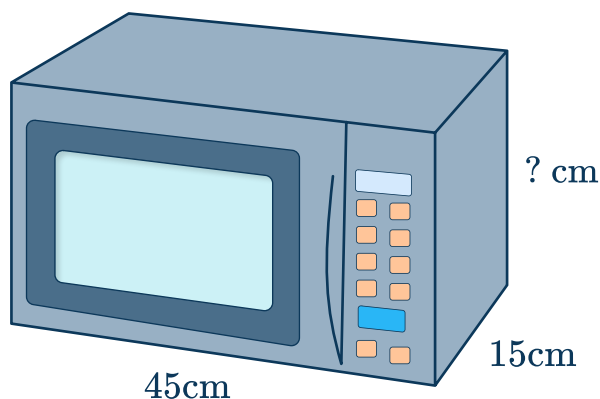
What is the volume of the cereal box shown above?

Answer

- 9 A pet store sells two sizes of aquariums. They both have a height of 3 ft and a width of 1 ft . The small aquarium has a length of 2 ft and the large aquarium has a length of 5 ft . What is the difference in the volume between the small and large aquarium, in ft^3 ?

Answer

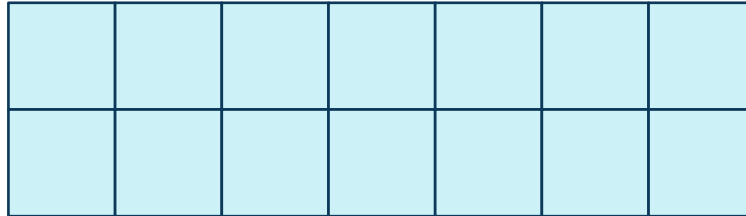
- 10 If the volume of the microwave is $12,150\text{ cm}^3$, what is the missing height measurement?



Answer

Applied Questions

- 11** This is the view of the top side of a rectangular prism made up of unit cubes:



If the volume of the prism is 42 cm^3 , show the view for each side of the prism.

Answer

- 12** Order the rectangles from least to greatest volume

- a) Length: 12 mm , Width: 34 mm , Height: 6 mm
- b) Length: 3 cm , Width: 5 cm , Height: 2 cm
- c) Length: 31 mm , Width: 35 mm , Height: 22 mm
- d) Length: 2 cm , Width: 4 cm , Height: 1 cm

Answer

Volume of a rectangular prism Worksheet | Grades 4 to 5

- 13** A group of students are discussing the formula for volume of a rectangular prism, where l is length, w is width, h is height, and B is the area of the base.

- Terrence says $V = l \times w \times h$
- Zane says $V = B \times h$
- Sam says $V = l \times w$

Who is correct? Explain.

- 14** Naya builds a rectangular prism out of 78 square blocks. If the side length of a block is 4 cm , what is the volume of Naya's rectangular prism in cm^3 ?

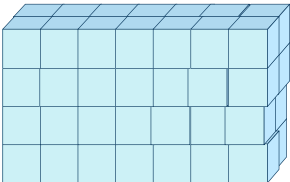
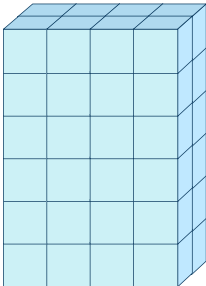
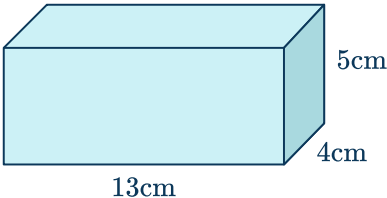
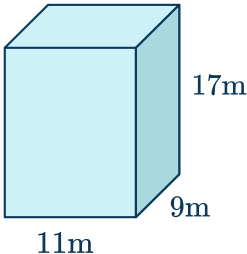
Answer

- 15** Two students were calculating the volume of a cube that has a side length of 48 inches.

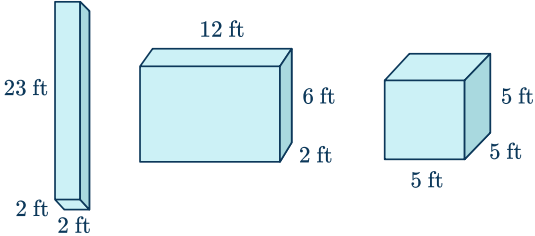
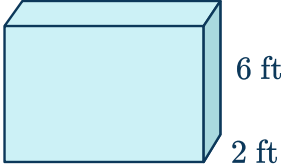
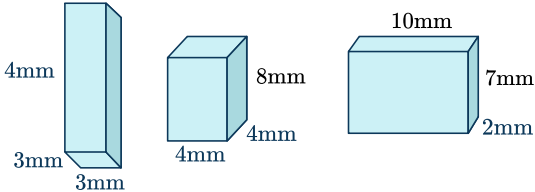
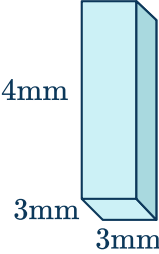
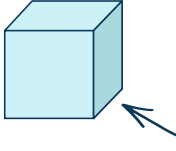
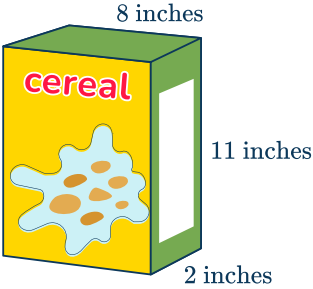
- Leilani says "The volume is $110,592\text{ inches}^3$."
- Tristan says "The volume is 64 ft^3 ."

Who is correct? Explain.

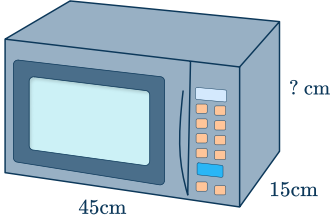
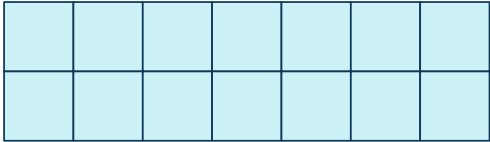
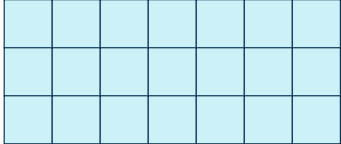
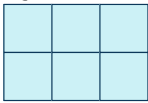
Answers

Question number	Question	Answers	Standard
1	<p>Each cube has a side length of 1 inch. Find the volume of the rectangular prism.</p> 	56 inches^3	5.MD.C.5a
2	<p>Each cube has a side length of 1 ft. Find the volume of the rectangular prism.</p> 	48 ft^3	5.MD.C.5a
3	<p>Calculate the volume of the rectangular prism.</p> 	260 cm^3	5.MD.C.5b
4	<p>Calculate the volume of the rectangular prism.</p> 	$1,683 \text{ m}^3$	5.MD.C.5b

Volume of a rectangular prism Worksheet | Grades 4 to 5 | Answers

Question number	Question	Answers	Standard
5	<p>Circle the rectangular prism with the largest volume.</p> 		5.MD.C.5b
6	<p>Circle the rectangular prism with the smallest volume.</p> 		5.MD.C.5b
7	 <p>Simon has a collection of 25 erasers. Each eraser is a cube with a side length of 1 inch. If he has a box that perfectly fits all the erasers, what is the volume of the box?</p>	25 inches^3	5.MD.C.5a
8	 <p>What is the volume of the cereal box shown above?</p>	176 inches^3	5.MD.C.5b

Volume of a rectangular prism Worksheet | Grades 4 to 5 | Answers

Question number	Question	Answers	Standard
9	<p>A pet store sells two sizes of aquariums. They both have a height of 3 ft and a width of 1 ft. The small aquarium has a length of 2 ft and the large aquarium has a length of 5 ft. What is the difference in the volume between the small and large aquarium, in ft^3?</p>	9 ft^3	5.MD.C.5b
10	<p>If the volume of the microwave is $12,150\text{ cm}^3$, what is the missing height measurement?</p> 	18 cm	5.MD.C.5b
11	<p>This is the view of the top side of a rectangular prism made up of unit cubes:</p>  <p>If the volume of the prism is 42 cm^3, show the view for each side of the prism.</p>	<p>front / back side</p>  <p>AND</p> <p>right / left side</p> 	5.MD.C.5a
12	<p>Order the rectangles from least to greatest volume</p> <p>A Length: 12 mm, Width: 34 mm, Height: 6 mm</p> <p>B Length: 3 cm, Width: 5 cm, Height: 2 cm</p> <p>C Length: 31 mm, Width: 35 mm, Height: 22 mm</p> <p>D Length: 2 cm, Width: 4 cm, Height: 1 cm</p>	A, D, C, B	5.MD.C.5b

Volume of a rectangular prism Worksheet | Grades 4 to 5 | Answers

Question number	Question	Answers	Standard
13	<p>A group of students are discussing the formula for volume of a rectangular prism, where l is length, w is width, h is height, and B is the area of the base.</p> <ul style="list-style-type: none"> • Terrence says $V = l \times w \times h$ • Zane says $V = B \times h$ • Sam says $V = l \times w$ <p>Who is correct? Explain.</p>	<p>Explanations will vary.</p> <p>Example answer: Both Terrence and Zane are correct. The volume is the amount inside, which is like taking the area of the base and filling up the shape by the height. The $l \times w$ and B show the area of the base and each is multiplied by the height, filling up the rectangular prism, which is measured in units cubed. Sam's equation is two-dimensional and only shows the area.</p>	5.MD.C.5b
14	<p>Naya builds a rectangular prism out of 78 square blocks. If the side length of a block is 4 cm, what is the volume of Naya's rectangular prism in cm^3?</p>	4,992 cm^3	5.MD.C.5b

Volume of a rectangular prism Worksheet | Grades 4 to 5 | Answers




Question number	Question	Answers	Standard
15	<p>Two students were calculating the volume of a cube that has a side length of 48 inches.</p> <ul style="list-style-type: none"> Leilani says “The volume is 110,592 <i>inches</i>³.” Tristan says “The volume is 64 <i>ft</i>³.” <p>Who is correct? Explain.</p>	<p>Explanations will vary.</p> <p>Example answer: Leilani is correct, because each side is 48 and $48 \times 48 \times 48$ is 110,592 and that is in cubed inches. Tristan is also correct, because 48 inches = 4 feet. And $4 \times 4 \times 4 = 64$ and that is in cubed feet. The numbers are different, because the size of the units are different, but they represent the same volume.</p>	5.MD.C.5b

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