



**THIRD SPACE  
LEARNING**

# Volume of a rectangular prism Worksheet

Geometry

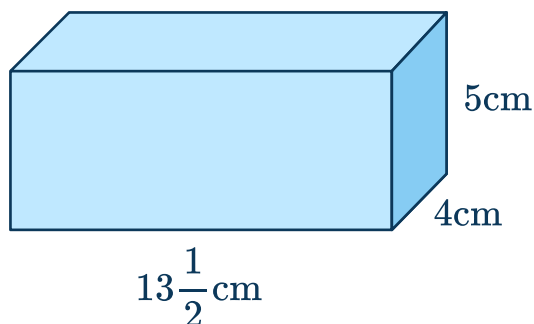
**Grades 6 to 8**

## Skill Questions

Name: .....

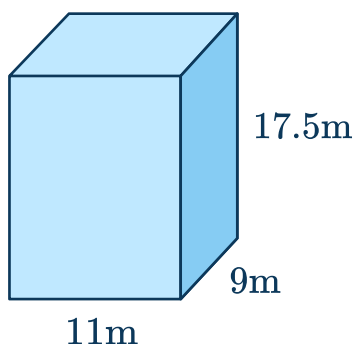
Date: .....

- 1 Calculate the volume of the rectangular prism.



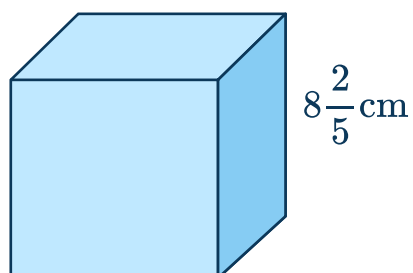
Answer

- 2 Calculate the volume of the rectangular prism.



Answer

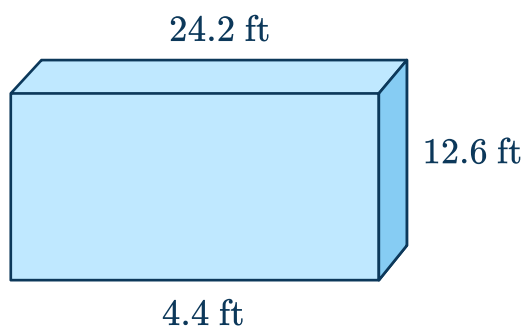
- 3 Calculate the volume of the cube.



Answer

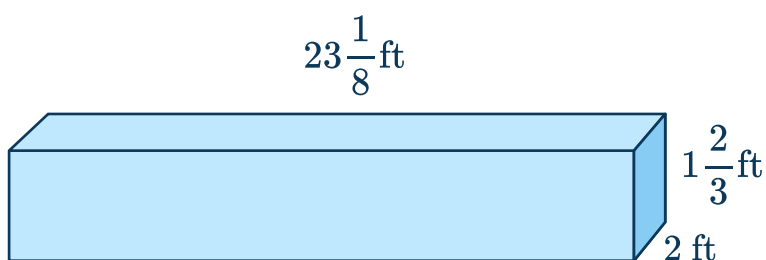
## Volume of a rectangular prism Worksheet | Grades 6 to 8

- 4 Calculate the volume of the rectangular prism.



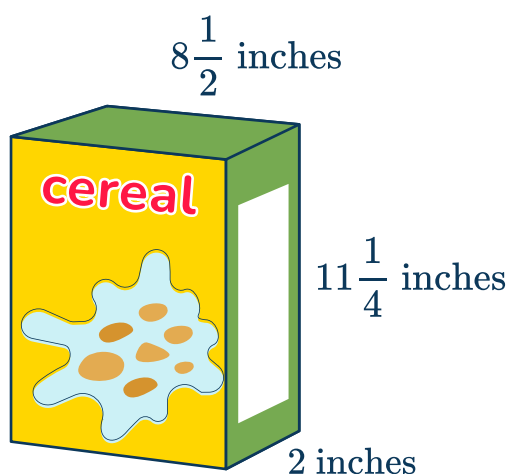
Answer

- 5 Calculate the volume of the rectangular prism.



Answer

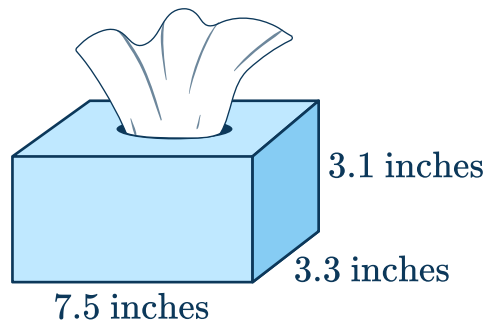
6



Answer

What is the volume of the cereal box shown above?

7



What is the volume of the tissue box shown above?

Answer

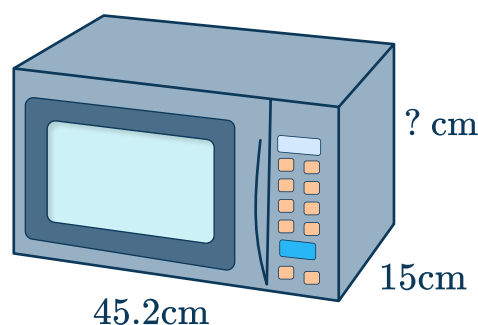
- 8 The top of Mina's desk has an area of  $9.6 \text{ ft}^2$  and the height is  $1.75$  feet. What is the volume of Mina's desk?

Answer

- 9 A pet store sells two sizes of aquariums. They both have a height of  $3\frac{2}{3} \text{ ft}$  and a width of  $1\frac{1}{2} \text{ ft}$ . The small aquarium has a length of  $2 \text{ ft}$  and the large aquarium has a length of  $5\frac{1}{8} \text{ ft}$ . What is the difference in the volume between the small and large aquarium, in  $\text{ft}^3$ ?

Answer

- 10 If the volume of the microwave is  $12,271.8 \text{ cm}^3$ , what is the missing height measurement?



Answer

## Applied Questions

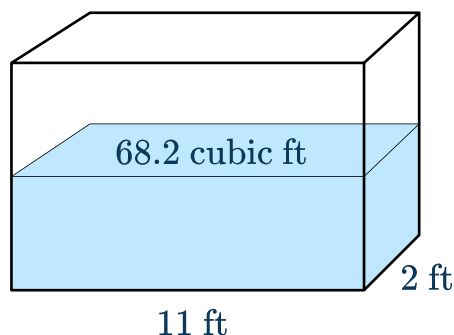
- 11 Hallie's aquarium is 2.4 inches by 3.6 inches by 5.1 inches. Hallie finds a new aquarium, but wants to make sure it holds the same amount (or more) of water. The area of the base of the new aquarium is 11.016 inches<sup>2</sup>. What is the minimum height for the new aquarium to meet the requirements?

Answer

- 12 Order the rectangular prisms from least to greatest volume
- a) Length: 12.1 mm, Width: 34.2 mm, Height: 6 mm
  - b) Length:  $3\frac{1}{6}$  cm, Width: 5 cm, Height: 2 cm
  - c) Length: 31.2 mm, Width: 35 mm, Height: 22.3 mm
  - d) Length: 2 cm, Width: 4 cm, Height:  $\frac{7}{8}$  cm

Answer

13



Jesse's rain barrel is shown above. It is a third of the way full. What is the distance from the top of the water line to the top of the barrel?

Answer

- 14 Hadassah builds a rectangular prism out of 78 square blocks. If the side length of a block is  $\frac{3}{4}$  cm, what is the volume of Hadassah's rectangular prism in  $cm^3$ ?

Answer



- 15 Three students were calculating the volume of a cube that has a side length of 54 inches.

- Jason says "The volume is 157,464"
- Serena says "The volume is 91.125"

Then Kyra says, "If you add units to your answers, both of you can be correct."

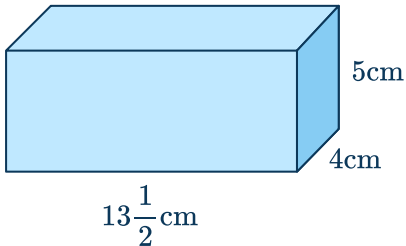
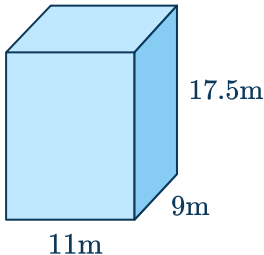
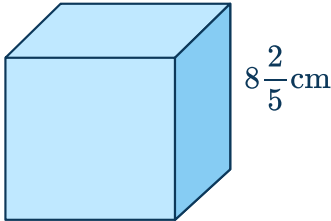
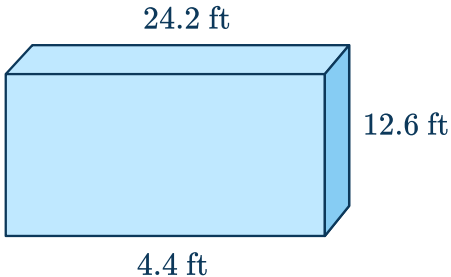
What can Kyra say to explain her strategy further?

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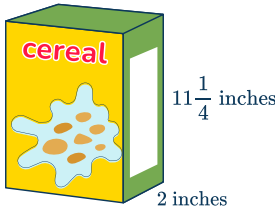
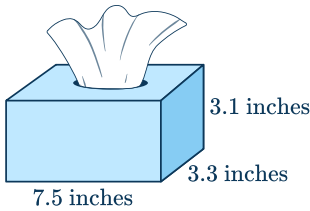
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## Answers

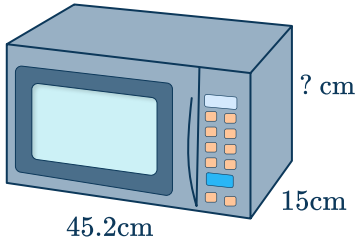
Question number	Question	Answers	Standard
1	Calculate the volume of the rectangular prism. 	$270 \text{ cm}^3$	6.G.A.2
2	Calculate the volume of the rectangular prism. 	$1,732.5 \text{ m}^3$	6.G.A.2
3	Calculate the volume of the cube. 	$592 \frac{88}{125} \text{ m}^3$	6.G.A.2
4	Calculate the volume of the rectangular prism. 	$1,341.648 \text{ ft}^3$	6.G.A.2

# Volume of a rectangular prism Worksheet | Grades 6 to 8 | Answers

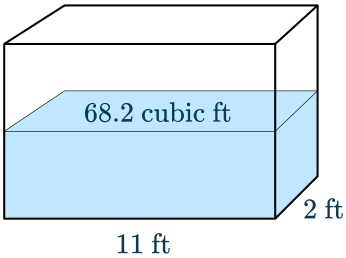
Question number	Question	Answers	Standard
5	<p>Calculate the volume of the rectangular prism.</p> <p><math>23\frac{1}{8}</math> ft</p> 	$77\frac{1}{12} ft^3$	6.G.A.2
6	<p><math>8\frac{1}{2}</math> inches</p>  <p>What is the volume of the cereal box shown above?</p>	$191\frac{1}{4} inches^3$	6.G.A.2
7	 <p>What is the volume of the tissue box shown above?</p>	$76.725 inches^3$	6.G.A.2
8	<p>The top of Mina's desk has an area of <math>9.6 ft^2</math> and the height is 1.75 feet. What is the volume of Mina's desk?</p>	$16.8 ft^3$	6.G.A.2
9	<p>A pet store sells two sizes of aquariums. They both have a height of <math>3\frac{2}{3} ft</math> and a width of <math>1\frac{1}{2} ft</math>. The small aquarium has a length of <math>2 ft</math> and the large aquarium has a length of <math>5\frac{1}{8} ft</math>. What is the difference in the volume between the small and large aquarium, in <math>ft^3</math>?</p>	$17.1875 ft^3$	6.G.A.2



# Volume of a rectangular prism Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
10	<p>If the volume of the microwave is <math>12,271.8 \text{ cm}^3</math>, what is the missing height measurement?</p> 	18.1 <i>cm</i>	6.G.A.2
11	<p>Hallie's aquarium is 2.4 inches by 3.6 inches by 5.1 inches. Hallie finds a new aquarium, but wants to make sure it holds the same amount (or more) of water. The area of the base of the new aquarium is <math>11.016 \text{ inches}^2</math>. What is the minimum height for the new aquarium to meet the requirements?</p>	4 inches	6.G.A.2
12	<p>Order the rectangular prisms from least to greatest volume</p> <p>A Length: 12.1 <i>mm</i>, Width: 34.2 <i>mm</i>, Height: 6 <i>mm</i></p> <p>B Length: <math>3\frac{1}{6} \text{ cm}</math>, Width: 5 <i>cm</i>, Height: 2 <i>cm</i></p> <p>C Length: 31.2 <i>mm</i>, Width: 35 <i>mm</i>, Height: 22.3 <i>mm</i></p> <p>D Length: 2 <i>cm</i>, Width: 4 <i>cm</i>, Height: <math>\frac{7}{8} \text{ cm}</math></p>	A, D, C, B	6.G.A.2

# Volume of a rectangular prism Worksheet | Grades 6 to 8 | Answers




Question number	Question	Answers	Standard
13	 <p>Jesse's rain barrel is shown above. It is a third of the way full. What is the distance from the top of the water line to the top of the barrel?</p>	6.2 inches	6.G.A.2
14	Hadassah builds a rectangular prism out of 78 square blocks. If the side length of a block is $34\text{ cm}$ , what is the volume of Hadassah's rectangular prism in $\text{cm}^3$ ?	$32\frac{29}{32}\text{ cm}^3$	6.G.A.2
15	<p>Three students were calculating the volume of a cube that has a side length of 54 inches.</p> <ul style="list-style-type: none"> <li>• Jason says "The volume is 157,464"</li> <li>• Serena says "The volume is 91.125"</li> </ul> <p>Then Kyra says, "If you add units to your answers, both of you can be correct."</p> <p>What can Kyra say to explain her strategy further?</p>	<p><i>Explanations will vary.</i></p> <p>Example answer: Kyra can explain that each of them has solved using different units, but they have calculated the same volume. Jason has used the original units, inches and so that answer is cubed inches. Serena has converted 54 inches to 4.5 feet, and so her units are cubed feet.</p>	6.G.A.2

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