



**THIRD SPACE
LEARNING**

Volume of a Cube Worksheet

Geometry

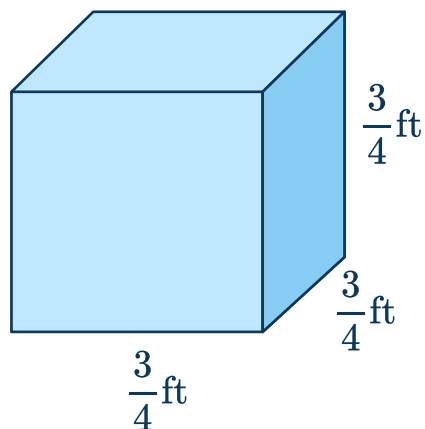
Grades 6 to 8

Skill Questions

Name:

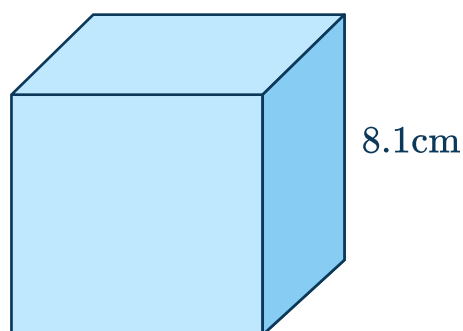
Date:

- 1 Calculate the volume of the cube.



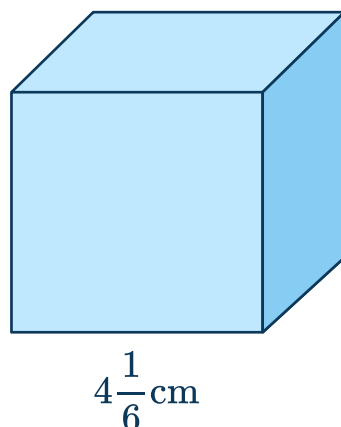
Answer

- 2 Calculate the volume of the cube.



Answer

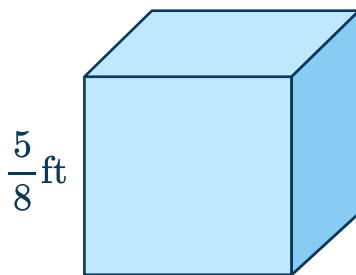
- 3 Calculate the volume of the cube.



Answer

Volume of a Cube Worksheet | Grades 6 to 8

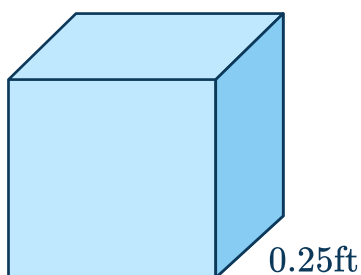
4



The area of the base of the cube is $\frac{25}{64}$ ft². Find the volume.

Answer

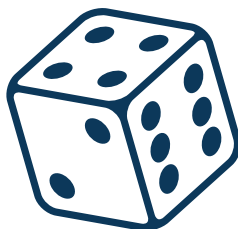
5



The area of the front face of the cube is 9 inches². Find the volume.

Answer

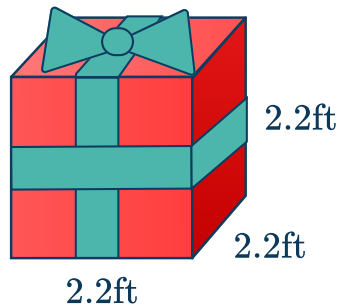
6



Each side of a cubed dice is 1.3 inches. What is the volume of the dice?

Answer

7



What is the volume of the gift box?

Answer

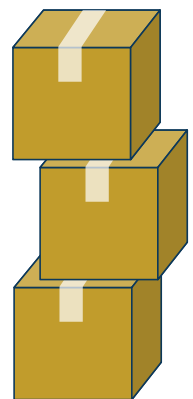
- 8 A grocery store sells two sizes of tissue boxes. The small box has a side length of 4.5 inches and the larger box has a side length of 6.4 inches. What is the difference in the volume between the small and large tissue box, in inch^3 ?

Answer

- 9 Celeste has a container for flour. The area of the base is 23.04 inch^2 . The height is 4.8 inches. What is the volume of the container? Round to the nearest tenth.

Answer

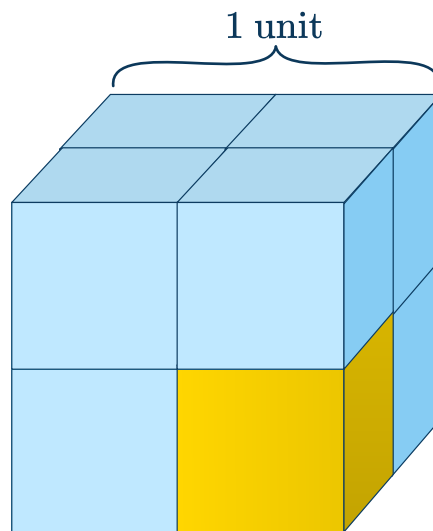
- 10 There are 3 identical cube-shaped boxes stacked on top of each other. Their combined height is 8.1 ft. How much space, in ft^3 , do the boxes take up?



Answer

Applied Questions

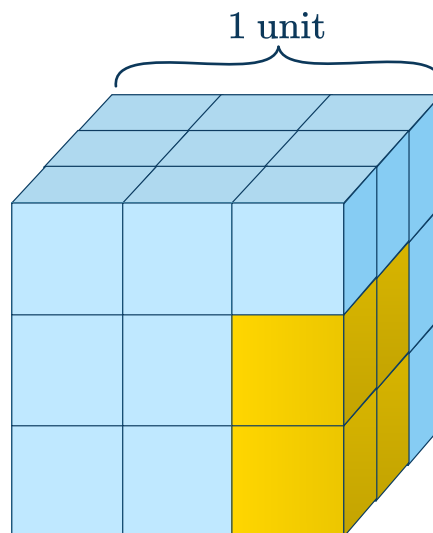
11



The entire cube is 1 unit cube. It is filled with smaller, congruent cubes.
What is the volume of the orange cube?

Answer

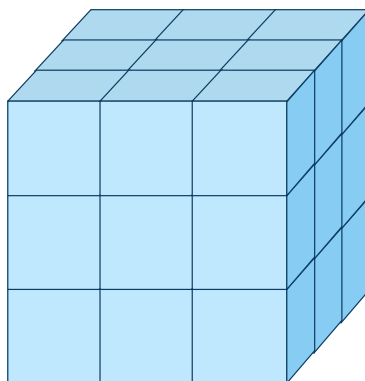
12



The entire cube is 1 unit cube. It is filled with smaller, congruent cubes.
What is the volume of the orange cubes?

Answer

13

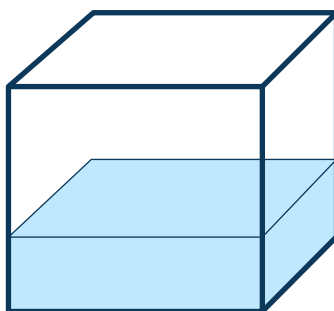


Yuri made a large cube out of smaller cube blocks. Each cube block has a side length of $\frac{1}{2}$ of an inch.

Yuri says “The volume of the larger cube is 9×3 , then multiply that by $\frac{1}{8}$ inch³.”

Is Yuri correct? Explain.

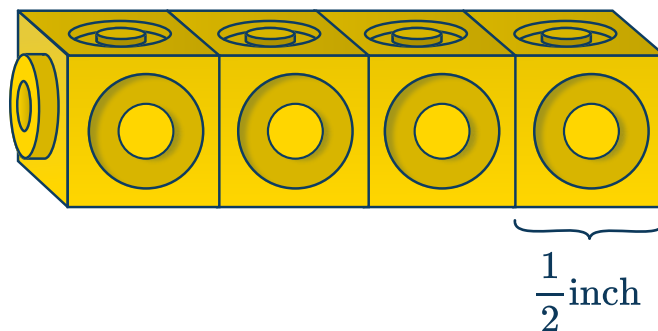
14



Finley’s cubic fish tank is shown above. It is a third of the way full and has 48 inch³ of water. How much water, in cubic inches, is needed to fill the tank?

Answer

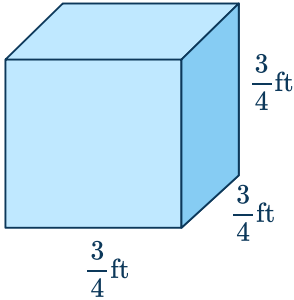
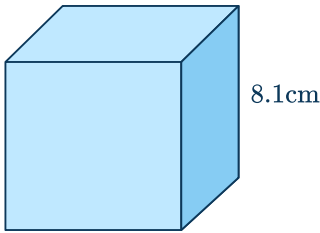
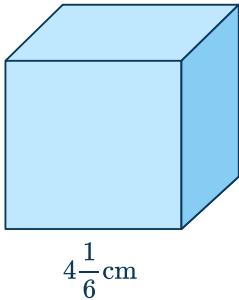
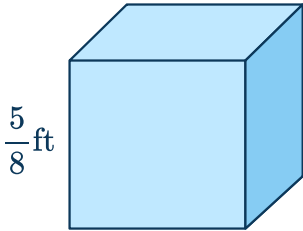
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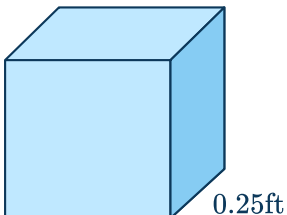

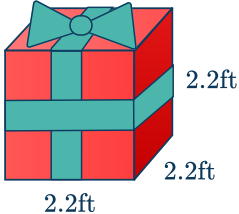
Reign plays with interlocking cubes. He wants to fill a box with the cubes. Each side of the box is $4\frac{1}{3}$ inches.

What is the maximum number of interlocking cubes that will fit in the box? Explain.

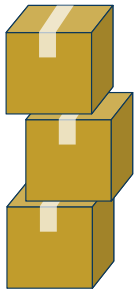
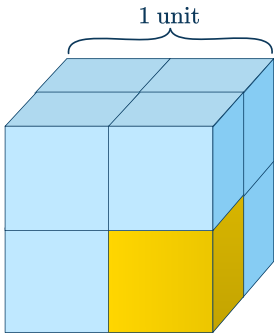
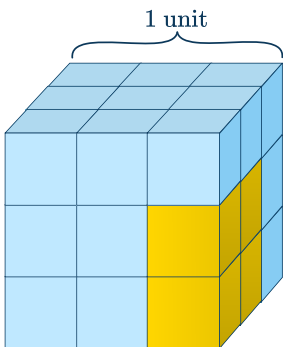
Answers

Question number	Question	Answers	Standard
1	Calculate the volume of the cube. 	$\frac{27}{64} \text{ ft}^3$	6.G.A.2
2	Calculate the volume of the cube. 	531.441 cm^3	6.G.A.2
3	Calculate the volume of the cube. 	$72\frac{73}{216}$ or 72.34 cm^3 *decimal was rounded	6.G.A.2
4	 The area of the base of the cube is $\frac{25}{64} \text{ ft}^2$. Find the volume.	$\frac{125}{512}$ or 0.24 ft^3 *decimal was rounded	6.G.A.2

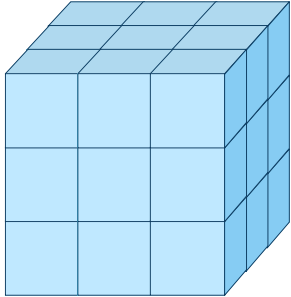
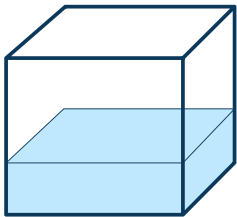
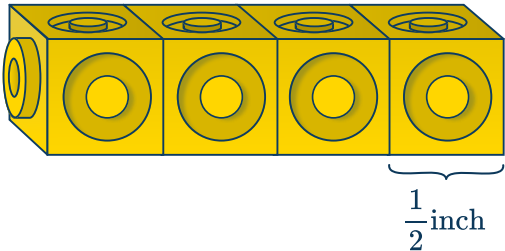
Volume of a Cube Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
5	 <p>The area of the front face of the cube is 9 inches². Find the volume.</p>	27 inches ³ OR 0.0156 ft ³ *decimal was rounded	6.G.A.2
6	 <p>Each side of a cubed dice is 1.3 inches. What is the volume of the dice?</p>	2.197 inches ³	6.G.A.2
7	 <p>What is the volume of the gift box?</p>	10.648 ft ³	6.G.A.2
8	<p>A grocery store sells two sizes of tissue boxes. The small box has a side length of 4.5 inches and the larger box has a side length of 6.4 inches. What is the difference in the volume between the small and large tissue box, in inch³?</p>	171.019 inch ³	6.G.A.2
9	<p>Celeste has a container for flour. The area of the base is 23.04 inch². The height is 4.8 inches. What is the volume of the container? Round to the nearest tenth.</p>	110.6 inch ³	6.G.A.2

Volume of a Cube Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
10	 <p>There are 3 identical cube-shaped boxes stacked on top of each other. Their combined height is 8.1 ft. How much space, in ft^3, do the boxes take up?</p>	59.049 ft^3	6.G.A.2
11	 <p>The entire cube is 1 unit cube. It is filled with smaller, congruent cubes. What is the volume of the orange cube?</p>	$\frac{1}{8}$ of a unit cube	6.G.A.2
12	 <p>The entire cube is 1 unit cube. It is filled with smaller, congruent cubes. What is the volume of the orange cubes?</p>	$\frac{4}{27}$ of a unit cube	6.G.A.2

Volume of a Cube Worksheet | Grades 6 to 8 | Answers




Question number	Question	Answers	Standard
13	<p>Yuri made a large cube out of smaller cube blocks. Each cube block</p>  <p>has a side length of $\frac{1}{2}$ of an inch. Yuri says "The volume of the larger cube is 9×3, then multiply that by $\frac{1}{8}$ inch³." Is Yuri correct? Explain.</p>	<p>Answers will vary. Example answer: Yes, Yuri found the number of blocks in of one layer and knows there are 3 layers, so that's 9×3. Then since each cube has a volume of $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$, it needs to be multiplied by 27 to find out how much space the blocks (as the larger cube) take up.</p>	6.G.A.2
14	 <p>Finley's cubic fish tank is shown above. It is a third of the way full and has 48 inch³ of water. How much water, in cubic inches, is needed to fill the tank?</p>	144 inch ³	6.G.A.2
15	 <p>Reign plays with interlocking cubes. He wants to fill a box with the cubes. Each side of the box is $4\frac{1}{3}$ inches. What is the maximum number of interlocking cubes that will fit in the box? Explain.</p>	<p>Answers will vary. Example answer: If Reign puts the cubes together, he can have 8 cubes by 8 cubes by 8 cubes. This is 4 inches by 4 inches by 4 inches. The leftover $\frac{1}{3}$ of an inch on each side won't fit a cube. This means 512 cubes will fit.</p>	6.G.A.2

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