Lesson Practice

Choose the correct answers.

1. A rectangular poster has a length of 0.8 meters and a width of 55 centimeters. Select THREE statements that are true.

   A. The perimeter of the poster is 27 meters.

   B. The area of the poster is 4.4 square meters.

   C. The perimeter of the poster is 270 centimeters.

   D. The length is 0.025 meters greater than the width.

   E. The area of the poster is 4,400 square centimeters.

   F. The length is 25 centimeters greater than the width.

2. Each large crate is 80 kilograms. Each small crate is 36 kilograms. There will be 25 large crates and 40 small crates that will be loaded onto a truck. Select TWO statements that are true.

   A. The total mass of the large crates is 1 metric ton.

   B. The total mass of the small crates is 1.44 metric tons.

   C. Each large crate has a mass that is 44,000 grams greater than each small crate.

   D. The total mass of the large crates is 0.056 metric tons greater than the total mass of the small crates.

   E. The total mass of the small crates is 0.44 metric tons greater than the total mass of the large crates.

3. A bottle contains 1.5 liters of water. Vera is going to equally distribute the water into 4 glasses. How much water will be in each glass?

   A. 37.5 milliliters

   B. 60 milliliters

   C. 375 milliliters

   D. 600 milliliters

4. Washington Street, a north-south street, is 3.2 kilometers long. From the north, there are no cross streets for the first 1.2 kilometers, then there are 4 cross streets, each an equal distance apart. How far apart are the cross streets?

   A. 50 meters

   B. 80 meters

   C. 500 meters

   D. 800 meters

5. For soccer practice, the coaches bring 12 liters of water. There are 16 players and 4 adults at the practice. They will drink all of the water with each person drinking an equal amount. How much water will each person drink?

   A. 10 milliliters

   B. 60 milliliters

   C. 100 milliliters

   D. 600 milliliters

Lesson Practice

Choose the correct answers.

1. A jug can hold $1\frac{1}{2}$ gallons of water. Select THREE statements that are true.

   A. The jug can hold 6 quarts.
   B. The jug can hold 10 pints.
   C. The jug can hold 20 cups.
   D. If 12 fluid-ounce cups are used, 16 can be filled.
   E. If 20 fluid-ounce cups are used, 10 can be filled.
   F. If 24 fluid-ounce cups are used, 8 can be filled.

2. A board is 10 feet long. Select THREE statements that are true.

   A. The board is 4 yards long.
   B. The board is 120 inches long.
   C. If the board is cut into sixths, each piece will be 18 inches long.
   D. If the board is cut into fourths, each piece will be $\frac{5}{6}$ yard long.
   E. If the board is cut into halves, each piece will be 1 yard, 2 feet long.

3. Each lap around a park is $1\frac{1}{2}$ miles. A group walks 4 laps. How many yards does the group walk?

   A. 8,800 yards
   B. 10,560 yards
   C. 25,200 yards
   D. 31,680 yards

4. A freight elevator has a weight limit of $3\frac{1}{2}$ tons. It currently has 2,500 pounds of crates loaded. How much more weight can safely fit on the freight elevator?

   A. 1 ton
   B. $2\frac{1}{4}$ tons
   C. 1,000 pounds
   D. 5,000 pounds

5. Dallas is going to put $2\frac{1}{2}$ quarts of water into a pot. He has a 1-cup measuring cup and a 1-pint measuring cup. How many more times will Dallas need to fill the 1-cup measuring cup than the 1-pint measuring cup?

   A. 5
   B. 6
   C. 10
   D. 12

6. On a baseball field, the distance between the bases is 30 yards and the distance from the pitching rubber to home plate is $60\frac{1}{2}$ feet. How many more inches is the distance from home plate to first base than the distance from the pitching rubber to home plate?

   A. 295 inches
   B. 305 inches
   C. 354 inches
   D. 366 inches

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7. Each deck of cards in a box has a weight of 3.4 ounces. The box contains 64 decks of cards. What is the total weight of the cards inside the box? The ounces are rounded to the nearest ounce.

A. 13 pounds 10 ounces
B. 15 pounds 9 ounces
C. 18 pounds 1 ounce
D. 27 pounds 2 ounces

8. A recipe calls for 6 fluid ounces of milk. The recipe makes 4 servings. How many cups of milk are needed to make 10 servings?

A. $\frac{15}{16}$ cup
B. $1\frac{7}{8}$ cups
C. 3 cups
D. $7\frac{1}{2}$ cups

9. The tallest player on a college basketball team is 86 inches tall. The shortest player is 5 feet 9 inches tall. How much taller is the player who is 86 inches tall?

A. 17 inches
B. 21 inches
C. 27 inches
D. 37 inches

10. Mocha eats 6 ounces of dog food twice a day. How many days would a 30-pound bag of dog food last?

A. 30 days
B. 40 days
C. 60 days
D. 80 days

11. A pitcher contains 96 fluid ounces of lemonade. Holden drinks a pint of lemonade before his friends arrive. He will give each friend a cup of lemonade when they arrive. How many friends are visiting Holden?

A. 5
B. 6
C. 10
D. 11

12. A marathon is 26 miles, 385 yards long. What is the distance of a marathon in feet?

A. 46,145 feet
B. 46,915 feet
C. 137,665 feet
D. 138,435 feet

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13. Order the following capacities from greatest to least.

2 quarts; 3 pints; 7 cups; 60 fluid ounces

Show your work and explain your answer.

14. A wooden board is 16 feet long. After Jim cut a piece from the board, 12 inches were left. He said that he cut a piece that was 4 feet long. What mistake did Jim make? Correct his mistake, and explain how you solved the problem.

15.

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15. Marco needs to put 2 gallons of water into a pot to boil. He needs a precise measure, but he only has a measuring cup that holds 32 fluid ounces.

How many fluid ounces are in 2 gallons? Show your work.

How many times does Marco need to fill the measuring cup and pour water into the pot to reach 2 gallons? Explain your answer.

6. A banana has 27 grams of carbohydrates and 500 milligrams of fat. How many more milligrams of carbohydrates than fat does a banana have?

   A. 26.5 grams
   B. 265 grams
   C. 2,650 grams
   D. 26,500 grams

7. There are 6 liters of lemonade in a pitcher. If 9 glasses, each containing 350 milliliters, are filled, how much lemonade remains in the pitcher?

   A. 2.85 liters
   B. 3.15 liters
   C. 5.65 liters
   D. 5.685 liters

Use this information to answer questions 8 and 9.

Abel drew a rectangle that has a length of 24 millimeters and a width of 2 centimeters.

8. What is the perimeter of Abel's rectangle?

   A. 4.4 millimeters
   B. 4.4 centimeters
   C. 8.8 millimeters
   D. 8.8 centimeters

9. What is the area of Abel's rectangle?

   A. 4.8 square centimeters
   B. 4.8 square millimeters
   C. 48 square millimeters
   D. 48 square centimeters

10. The mass of a pencil is 5.3 grams. There are 20 pencils in a box. What is the total mass of the pencils in kilograms?

    A. 0.0106 kilogram
    B. 0.106 kilogram
    C. 0.16 kilogram
    D. 1.06 kilograms

11. George Street is a dead-end street that is 0.96 kilometers long. Each lot on each side of George Street is 24 meters wide. How many total lots are on George Street?

    A. 4
    B. 8
    C. 40
    D. 80

12. Maverick finished a 10-kilometer race in 20 minutes. Axel finished the same race in 25 minutes. How many more meters did Maverick run each minute?

    A. 1 meter
    B. 10 meters
    C. 100 meters
    D. 1,000 meters

13. Len said that 7 meters is a shorter distance than 750 millimeters. What error did Len make? Explain how to fix the error. Justify your answer.

14. Each crate on a freight elevator has a mass of 175 kilograms. The freight elevator can hold 1.5 metric tons of crates. How many crates can fit on the freight elevator? Explain your answer.

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15. A cooler holds 40 liters of water. A soccer team uses plastic cups that each hold 500 milliliters of water.

What is the capacity of each plastic cup in liters? What is the capacity of the sports cooler in milliliters? Explain how you found your answer.

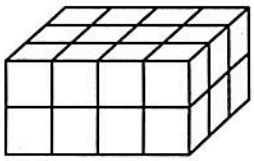
How many plastic cups can be filled with the water in the cooler? Show your work to justify your answer.

Lesson Practice

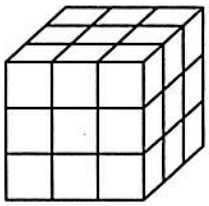
Choose the correct answers.

1. Select THREE rectangular prisms that have a volume of 36 cubic units.

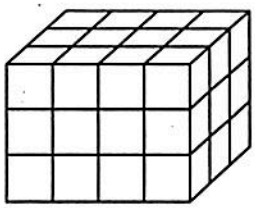
A.



B.



C.



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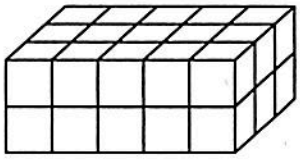

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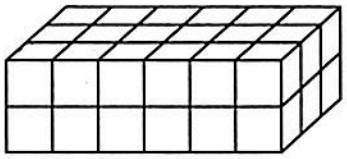

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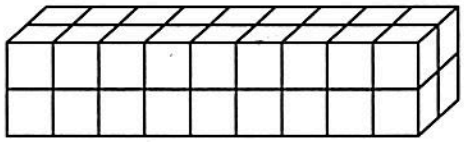
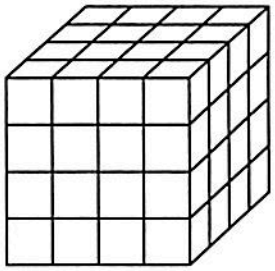
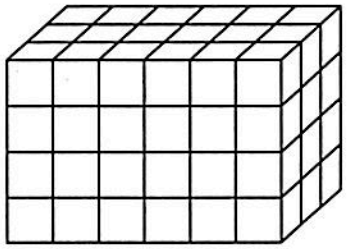


2. Select THREE rectangular prisms that have a volume of 72 cubic units.

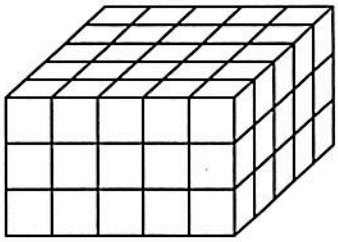
A.



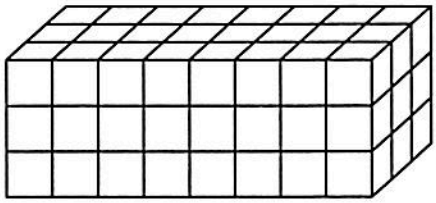
B.



C.



D.



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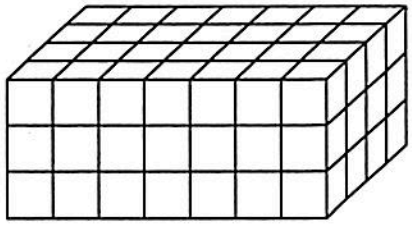
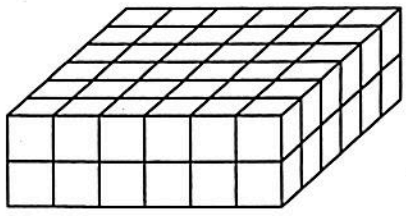


F.



3.

4.

5.

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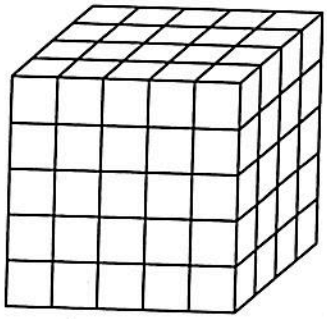
3. If each cube has a length of 1 centimeter, what is the volume of each cube?

A. 1 square centimeter
B. 1 cubic centimeter
C. 6 square centimeters
D. 6 cubic centimeters

4. What is the volume of the rectangular prism?

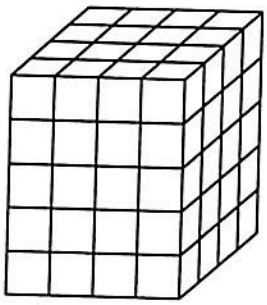


A. 80 cubic units
B. 100 cubic units
C. 120 cubic units
D. 125 cubic units

5. A rectangular prism has a volume of 40 cubic centimeters. Which best describes the rectangular prism?

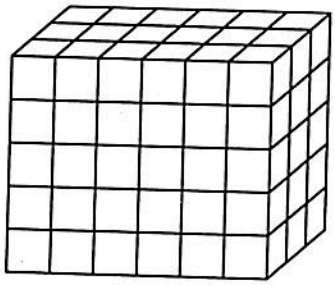
A. It is made of 40 one-centimeter cubes that have no gaps or overlaps.
B. It is made of 40 one-centimeter cubes that can have gaps and/or overlaps.
C. It is made of 40 cubes that have no gaps or overlaps.
D. It is made of 40 one-millimeter cubes that have can have gaps and/or overlaps.

6. What is the volume of this rectangular prism?



A. 40 cubic units
B. 64 cubic units
C. 80 cubic units
D. 100 cubic units

Use this rectangular prism to answer questions 7 and 8.



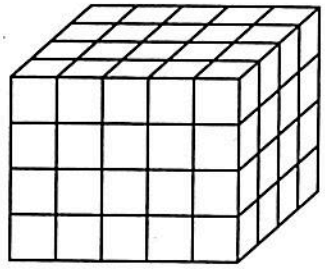
7. What is the volume of this rectangular prism?

A. 60 cubic units
B. 70 cubic units
C. 80 cubic units
D. 90 cubic units

8. If one more layer was added, by how many cubic units would the volume increase?

A. 14 cubic units
B. 15 cubic units
C. 18 cubic units
D. 30 cubic units

9. A rectangular prism is shown.

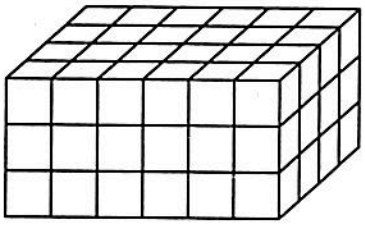


What is the volume, in cubic units, of the top layer of the figure?

What is the volume, in cubic units, of the rectangular prism?

Explain your answer.

10. A rectangular prism is shown.



What is the volume, in cubic units, of the rectangular prism?

Describe the method you used to find the volume.

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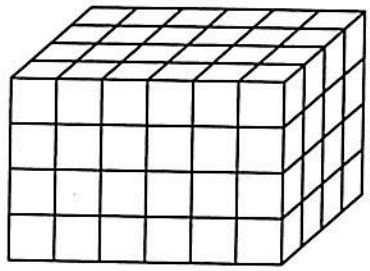
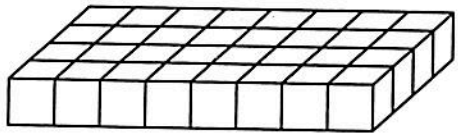
11. Rectangular prism A is shown.



The base of rectangular prism B is shown.



What is the volume, in cubic units of rectangular prism A?

Show your work or explain your answer.

How many layers does rectangular prism B need to have in order to have the same volume as rectangular prism A? Show your work and explain your answer.

DISCUSS

Was Piper's calculation correct?

Did Piper use the correct measures?

APPLY

Where did Piper make her mistake?

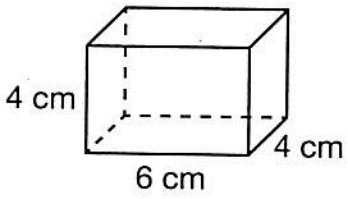
Correct the mistake and solve the problem. Explain your thinking.

Lesson Practice

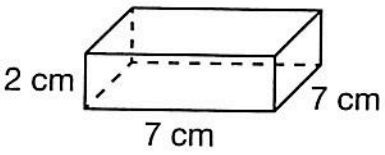
Choose the correct answers.

1. Select THREE rectangular prisms that have a volume of 96 cubic centimeters.

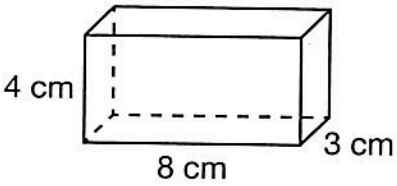
A.



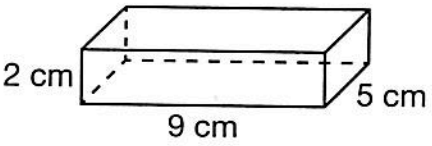
B.



C.



D.



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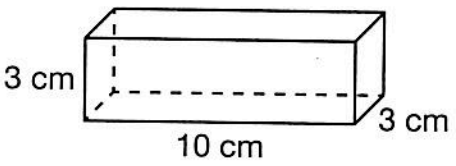
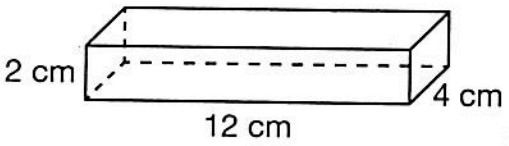
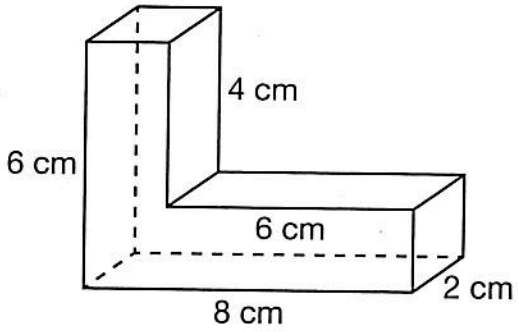


F.



2. A composite figure is shown. Select THREE statements about the figure that are true.



A. If separated into two rectangular prisms vertically, the left prism has a volume of 24 cubic centimeters.

B. If separated into two rectangular prisms vertically, the right prism has a volume of 32 cubic centimeters.

C. If separated into two rectangular prisms horizontally, the top prism has a volume of 24 cubic centimeters.

D. If separated into two rectangular prisms horizontally, the bottom prism has a volume of 32 cubic centimeters.

E. The volume of the composite figure is 48 cubic centimeters.

F. The volume of the composite figure is 56 cubic centimeters.

3. A rectangular prism has the same length and width. The sides of the rectangular prism are all a whole number of inches. The height of the rectangular prism is 6 inches. Which could be the volume of the rectangular prism?

   A. 144 cubic inches

   B. 216 cubic inches

   C. 432 cubic inches

   D. 576 cubic inches

4. Two boxes that are shaped like rectangular prisms are in Clara's basement. A red box has a base that has an area of 60 inches and a height of 5 inches. A blue box has a length of 8 inches, a width of 6 inches, and a height of 6 inches. Which sentence is true?

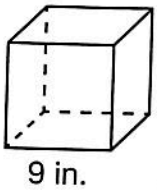
   A. The volume of the red box is 12 cubic inches greater than the blue box.

   B. The volume of the red box is 60 cubic inches greater than the blue box.

   C. The volume of the blue box is 6 cubic inches greater than the red box.

   D. The volume of the blue box is 33 cubic inches greater than the red box.

5. What is the volume of this cube?



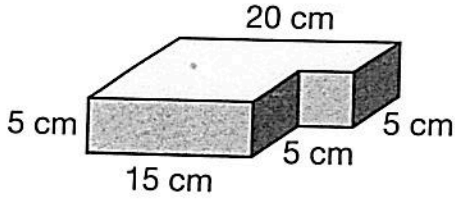
   A. 27 $in.^3$

   B. 81 $in.^3$

   C. 486 $in.^3$

   D. 729 $in.^3$

Use this composite figure to answer questions 6 and 7.



6. Roman said he could find the volume by splitting the composite figure into two rectangular prisms. He could then find the volume of both prisms and add the volumes. Gianna said she could find the volume of the cutout and the volume of the rectangular prism if the volume were included. She could then subtract the volume of the cutout from the rectangular prism including the cutout. Who is correct?

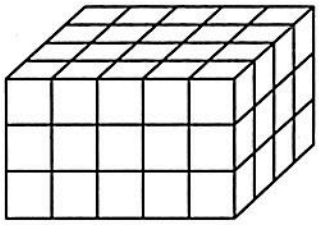
   A. Roman only

   B. Gianna only

   C. They are both correct.

   D. Neither is correct.

7. A rectangular prism is shown.



What is the volume, in cubic units, of the rectangular prism? Explain your answer.

8. Eliza drew a rectangular prism that has a base of 10 square inches and a height of 9 inches. Shannon drew a rectangular prism that has a length of 6 inches and a width of 3 inches. The two rectangular prisms have the same volume.

What is the height of Shannon's rectangular prism? Explain your answer.

9.

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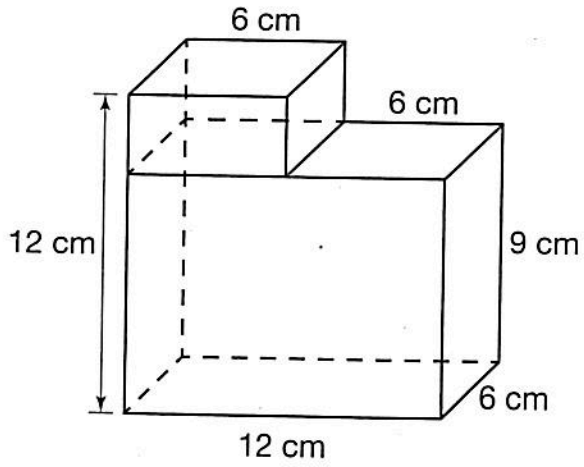
9. A composite solid figure is shown.



Explain how to find the volume of the composite solid.

dth

What is the volume of the composite solid? Show your work and explain your answer.