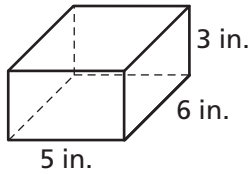


Homework

Find the surface area and volume.

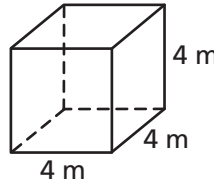
1.



SA = _____

V = _____

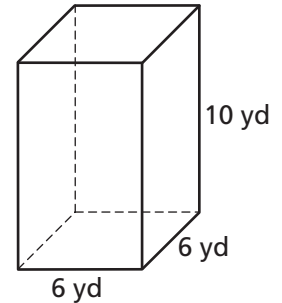
2.



SA = _____

V = _____

3.



SA = _____

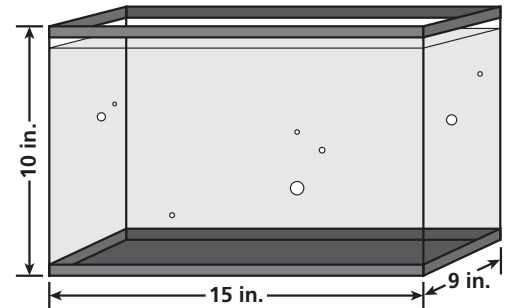
V = _____

Choose the most appropriate measure. Write *perimeter*, *surface area*, or *volume*.

- the distance around the shopping mall _____
- the amount of topsoil needed to put a 2 in. thick layer on the top of a square garden _____
- the amount of siding needed for a house _____

Solve.

- How many inch cubes would it take to fill the aquarium? What is the open surface area of the water?



- For good health, a 2 in. long fish requires 48 in.² of open surface area. How many fish about 2 in. long could be kept in an aquarium with an open surface that is 16 in. by 21 in.?

- The volume of an aquarium for one fish is 384 cubic inches. The height of the aquarium is 6 inches. The base is a square. What are the dimensions of the base?

Remembering

1. Julie babysits for 10 hours and earns \$45. At that rate, how many hours would she need to babysit to earn \$72?

Solve.

2. $4.55 \cdot 13$

3. $23.4 \div 6$

4. $3,094 + 1,229$

5. $7,299 - 6,459$

6. $0.095 \cdot 3$

7. $0.03402 \div 0.09$

Solve each equation.

8. $\frac{3}{4} + y = 1\frac{2}{3}$

$y =$ _____

9. $8 = \frac{2}{5}u$

$u =$ _____

10. $p - 9.3 = 29.4$

$p =$ _____

11. $t \div 1\frac{3}{4} = 4\frac{1}{2}$

$t =$ _____

12. $\frac{h}{14} = 24$

$h =$ _____

13. $8\frac{1}{2} = \frac{3}{4} + b$

$b =$ _____

14. $g + 45 = 112$

$g =$ _____

15. $5.4m = 24.3$

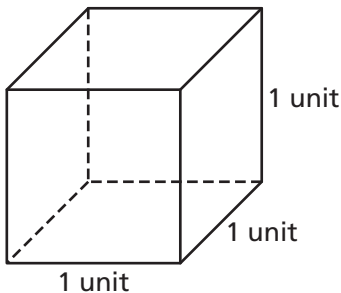
$m =$ _____

16. **Stretch Your Thinking** Write an equation that can be used to find the height, h , of a rectangular prism with length 5 cm, width 3 cm, and surface area 62 cm^2 . Then use the equation to find the height of the prism. Show your work.

Homework

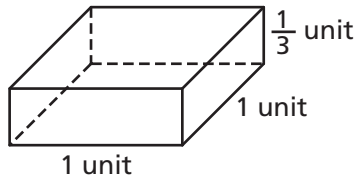
Find the volume.

1.



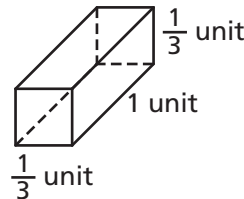
Unit Cube

$$V = \underline{\hspace{2cm}}$$



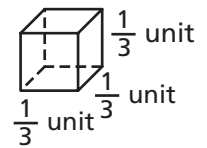
Prism D

$$V = \underline{\hspace{2cm}}$$



Prism E

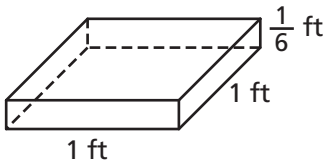
$$V = \underline{\hspace{2cm}}$$



Prism F

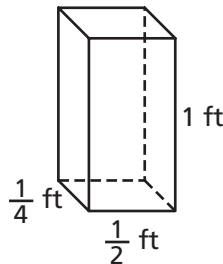
$$V = \underline{\hspace{2cm}}$$

2.



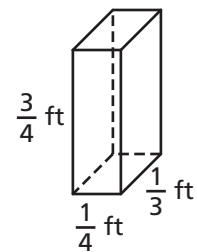
$$V = \underline{\hspace{2cm}}$$

3.



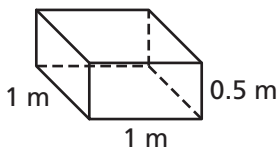
$$V = \underline{\hspace{2cm}}$$

4.



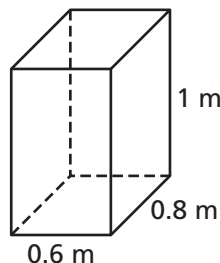
$$V = \underline{\hspace{2cm}}$$

5.



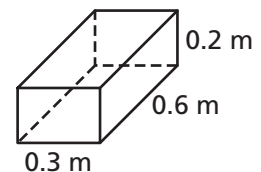
$$V = \underline{\hspace{2cm}}$$

6.



$$V = \underline{\hspace{2cm}}$$

7.



$$V = \underline{\hspace{2cm}}$$

Solve.

8. A plastic box in the shape of a rectangular prism has a base that is $\frac{7}{2}$ in. by $\frac{5}{2}$ in. and a height of $\frac{1}{2}$ in. How many cubes with edge lengths of $\frac{1}{2}$ in. would it take to fill the plastic box? What is the volume of the prism? _____

9. Describe two different rectangular prisms each of which has the volume $\frac{8}{100}$ ft³.

Remembering

1. Lunchroom A and Lunchroom B have the same ratio of tables to chairs. Lunchroom A has 7 tables and 42 chairs. Lunchroom B has 54 chairs. How many tables are in Lunchroom B?

Simplify by combining like terms. Use the Distributive Property if possible.

2. $4r + t(r + 6) + 7t$

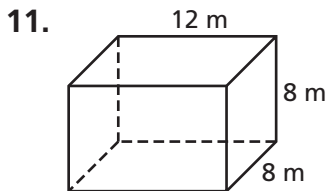
3. $15 + 3(y - 4 + g) - 2g$

4. $6y + 8ut + 17 - 4y - 10$

Write equivalent fractions. Complete.

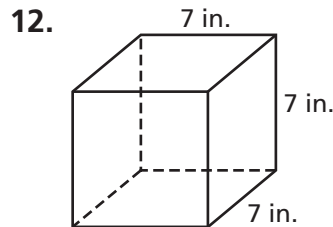
5.	$3\frac{3}{8}$	$3\frac{1}{6}$	→
6.	>, <		
7.	+		
8.	-		
9.	•		
10.	÷		

Find the surface area and volume.



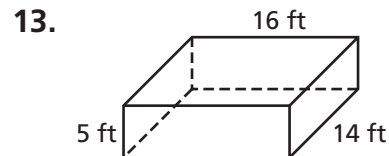
SA = _____

V = _____



SA = _____

V = _____



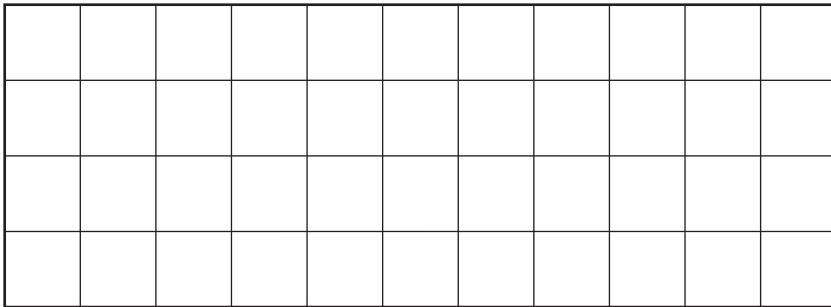
SA = _____

V = _____

14. **Stretch Your Thinking** When Carrie calculated the surface area and the volume of a rectangular prism, she got the same number. Only the measurement units were different. Describe Carrie's figure. Explain your answer.

Homework

1. Draw a base for a prism on the centimeter grid below. Choose a fractional height. Visualize the prism. Then write an expression for the volume of the prism using those dimensions.

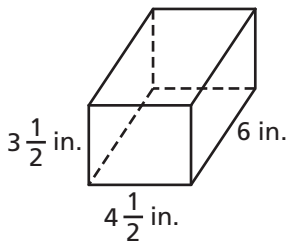


2. Explain the volume of the prism in Exercise 1 in terms of layers of cubes.

3. Calculate the volume of the prism you visualized in Exercise 1.

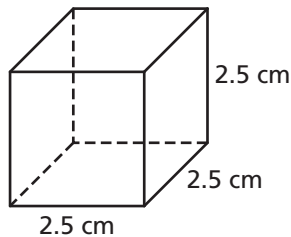
Find the volume.

4.



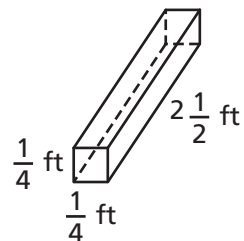
$$V = \underline{\hspace{2cm}}$$

5.



$$V = \underline{\hspace{2cm}}$$

6.



$$V = \underline{\hspace{2cm}}$$

Find the unknown dimension.

7. A rectangular prism has a volume of 7.875 m^3 and a height of 3.5 m. What is the area of the base of the prism?

8. A rectangular prism has a volume of 9 in.^3 . The area of the base is 4 in.^2 . What is the height of the prism?

Remembering

1. Jeremiah got 8 out of 10 problems correct on his test.
 Mariah got 36 out of 40 problems correct on her test.
 Who got the greater fraction of their problems correct?
- _____

Simplify each expression using the Order of Operations.

2. $7 + 3^2 \cdot 2$

3. $16 + 4(9 + 4)$

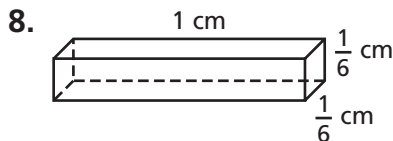
4. $6.7 + 33.2 \div 4 - 5$

5. $(4 + 5)^2 - 2 \cdot 12$

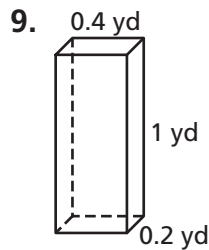
6. $5 + 3(4 + 2.1) - 10.3$

7. $36 - 4(10 - 3)$

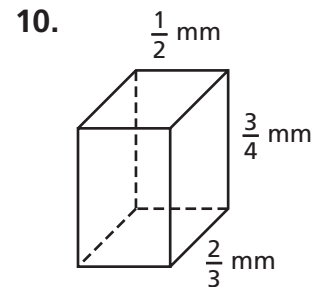
Find the volume.



V = _____



V = _____



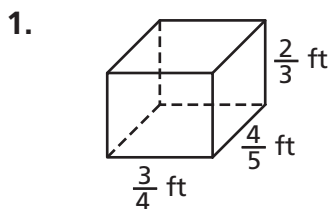
V = _____

11. **Stretch Your Thinking** The width and height of a rectangular prism are 4 m and 6 m. The volume of the prism is 12 m^3 . What is the length of the prism? Explain.
- _____
- _____
- _____
- _____
- _____
- _____

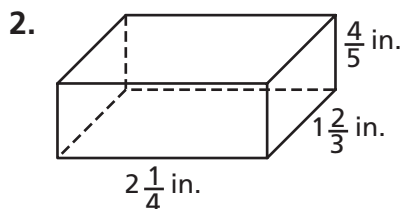
Homework

Write a numerical expression for the volume.

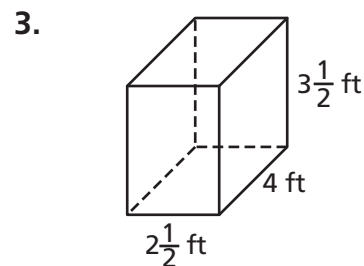
Then calculate the volume.



$$V = \underline{\hspace{2cm}}$$



$$V = \underline{\hspace{2cm}}$$



$$V = \underline{\hspace{2cm}}$$

Find the unknown dimension or volume of each rectangular prism.

4. $l = 4\frac{1}{2}$ in.

$w = 1\frac{1}{3}$ in.

$h = \frac{3}{4}$ in.

$V = \underline{\hspace{2cm}}$

5. $V = 25\frac{3}{5}$ yd³

$w = 3\frac{1}{5}$ yd

$h = 2\frac{1}{2}$ yd

$l = \underline{\hspace{2cm}}$

6. $l = 6$ ft

$w = 3\frac{1}{2}$ ft

$V = 49$ ft³

$h = \underline{\hspace{2cm}}$

7. $l = 4.6$ cm

$h = 3.4$ cm

$w = 2.5$ cm

$V = \underline{\hspace{2cm}}$

Solve.

8. A rectangular storage container has a base that measures 1.2 m by 3 m and is 2.4 m high. What is the volume of the storage container?

9. A sand box is 3 ft by 4 ft and 6 in. tall. How many cubic feet of sand does the sand box hold?

10. A lunch box has a volume of 221 in.³ The height is 4 in. and the width is $6\frac{1}{2}$ in. What is the length?

Remembering

1. At play practice, Sarah spends 12 minutes out of every 20 minutes practicing her lines. If Sarah is at play practice for an hour, how many minutes does she spend practicing her lines?

Solve the equation.

2. $5 + 9t = 5 + 45$

$t =$ _____

3. $8 + 2 = 2 + 4y$

$y =$ _____

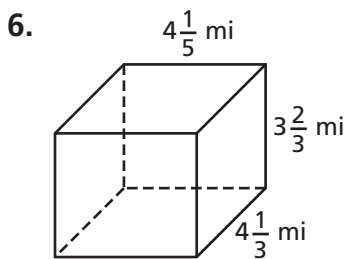
4. $\frac{r}{16} = 32$

$r =$ _____

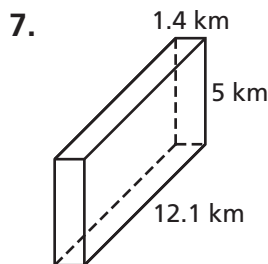
5. $\frac{5}{7} + j = 1\frac{2}{5}$

$j =$ _____

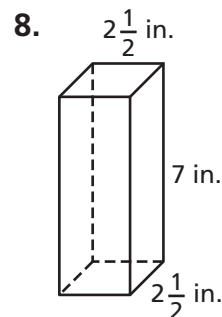
Find the volume.



$V =$ _____



$V =$ _____



$V =$ _____

9. **Stretch Your Thinking** Write an equation that you can use to represent the volume of a square prism. Use b to represent the length and width of the base. Use h to represent the height of the prism. Use exponents if possible. Then explain your answer.

Homework

Write an equation for volume, V , using the variables given.

- Each edge of a cube is f feet long. If V is the volume of the cube, write an equation relating f and V .

- A rectangular prism has a square base with edge lengths e and height r . Write an equation relating e , r , and V .

- A rectangular prism is 6 cm tall and has a base of area C cm². Write an equation relating C and V .

Solve.

Show your work.

- A shipping box is $\frac{2}{3}$ filled with peanuts. The shipping box has length $10\frac{1}{2}$ in., width $8\frac{1}{2}$ in., and height 12 in. What is the volume of the peanuts?

- The length of an aquarium is 13 in. The width is $\frac{1}{2}$ of the length. The height is $1\frac{1}{2}$ in. more than the width. What is the volume of the aquarium?

- The sum of the areas of the top and bottom of a cereal box is 32 cm². The box is 4 times as long as it is wide. What is the length of the box?

- Topsoil costs \$8 a cubic yard. How much will it cost to put 12 in. of topsoil on a 6 yd by 7 yd garden?

- A box of pencils has length 8 in., width 3 in., and height $\frac{1}{2}$ in. What is the greatest number of boxes of pencils that will fit in a shipping box that has a base $1\frac{1}{3}$ ft by $\frac{3}{4}$ ft and a height of 1 ft?

Remembering

1. It takes Johab 32 minutes to print 20 pictures. At this rate, how many pictures can Johab print in 1 hour and 12 minutes?
- _____

Solve.

2. $1,893 \div 345$

3. $1.02 \cdot 16$

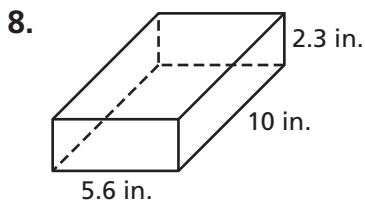
4. $69.23 + 1.22$

5. $4.67 \cdot 1.1$

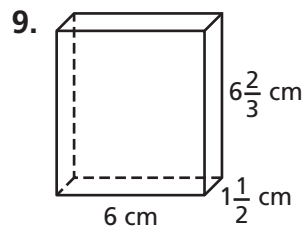
6. $34.529 \div 0.043$

7. $10,343 - 9,844$

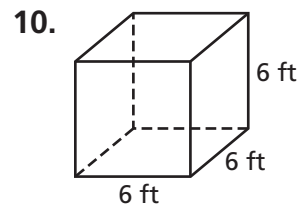
Write a numerical expression for the volume.
Then calculate the volume.



$V =$ _____



$V =$ _____



$V =$ _____

11. **Stretch Your Thinking** The volume of a rectangular prism with a square base is 67.5 m^3 . The height of the prism is 7.5 m . What are the dimensions of the base of the prism? Explain.
- _____
- _____
- _____
- _____

Homework

A design for a rectangular goldfish pond, with an area for landscaping, a safety fence, and a sidewalk next to the fence on the outside is needed for a shopping mall.

1. Draw a design below for the goldfish pond and the area around it. Label the dimensions on your design. Remember to include the depth of the pond.

2. Use your drawing to find the perimeter of the fence, the area of the sidewalk, and the volume of the goldfish pond.

Remembering

The equation below shows the amount of money Park spends at the store. In the equation, c is the number of baseball cards he buys and t is the total amount he spends.

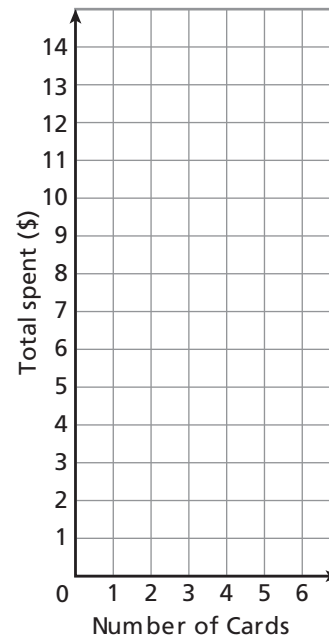
$$t = 1.5c + 6$$

1. Complete the table.

$$t = 1.5c + 6$$

cards, c	total (\$), t
1	
2	
3	
4	
5	

2. Plot the points from the table. Connect the points if it makes sense to.



Solve.

3. Jacqueline earns \$88 mowing 16 lawns. At this rate, how much does she get paid to mow 6 lawns?
-

4. The sum of the areas of the top and bottom of a cabinet is 54 ft^2 . The height of the cabinet is 5 ft. What is the volume of the cabinet?
-

5. **Stretch Your Thinking** Janaya is planning to build a toy box. She makes a sketch of the toy box and finds the volume. Then she doubles each dimension of the box and finds the volume of the larger box. Write equations to show the relationship between the volume of the small box and the volume of the large box. Explain your answer.
-
-
-