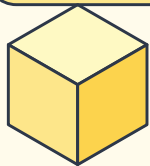


Volume of Prisms

Count the unit cubes in each box shape. Write the volume.

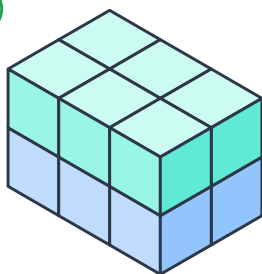
Volume



A unit cube is 1 cubic unit.

Volume is the number of unit cubes that fill a solid with no gaps.

Example



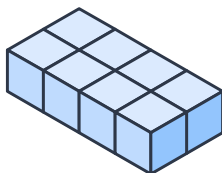
Count one layer at a time.

1 layer has 6 cubes. There are 2 layers.

$$2 \times 6 = \underline{12} \text{ cubic units}$$

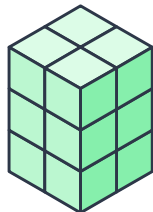
Each cube is 1 cubic unit.

1.



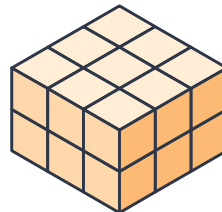
1 cube = 1 cubic unit
_____ cubic units

2.



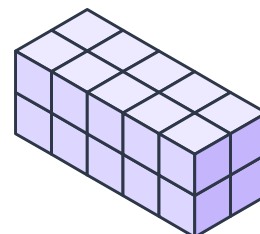
1 cube = 1 cubic cm
_____ cubic cm

3.



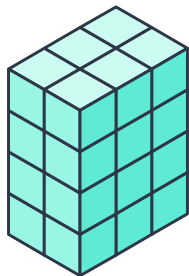
1 cube = 1 cubic inch
_____ cubic in.

4.



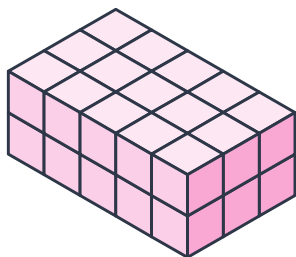
1 cube = 1 cubic unit
_____ cubic units

5.



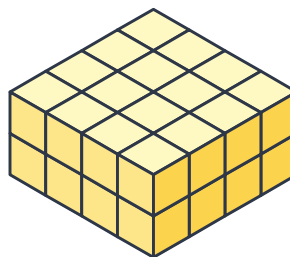
1 cube = 1 cubic foot
_____ cubic ft

6.



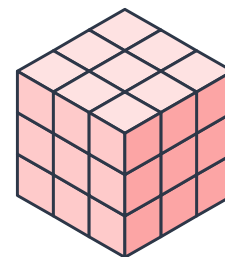
1 cube = 1 cubic cm
_____ cubic cm

7.



1 cube = 1 cubic inch
_____ cubic in.

8.

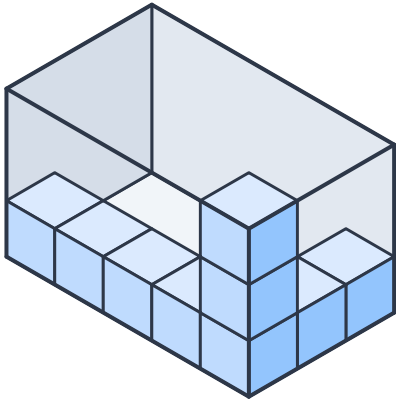


1 cube = 1 cubic foot
_____ cubic ft

Volume of Prisms

Find each volume in cubic units: bottom layer $\times$ layers.

Example

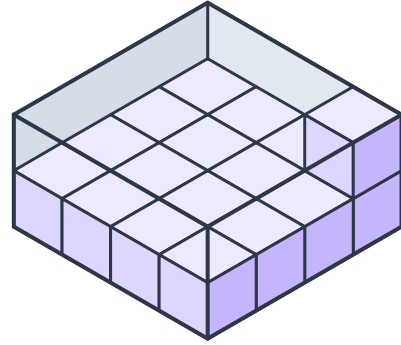


Bottom layer: 5 $\times$ 3 = 15

Number of layers: 3

Volume: 15 $\times$ 3 = 45

1.

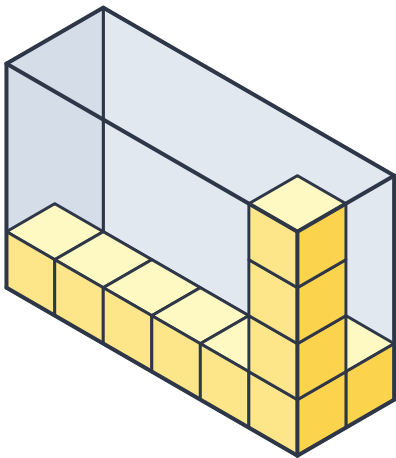


Bottom layer: _____ $\times$ _____ = _____

Number of layers: _____

Volume: _____ $\times$ _____ = _____

2.

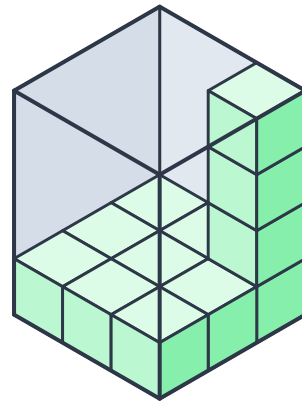


Bottom layer: _____ $\times$ _____ = _____

Number of layers: _____

Volume: _____ $\times$ _____ = _____

3.



Bottom layer: _____ $\times$ _____ = _____

Number of layers: _____

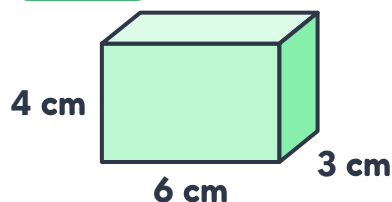
Volume: _____ $\times$ _____ = _____

Volume of Prisms

Multiply to find each volume.

Use $V = l \times w \times h$.

Example



$$V = l \times w \times h$$

$$V = 6 \times 3 \times 4$$

$$V = 72 \text{ cubic cm}$$

1.

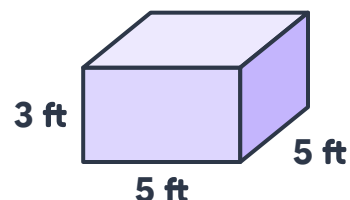


$$V = l \times w \times h$$

$$V = \underline{\quad} \times \underline{\quad} \times \underline{\quad}$$

$$V = \underline{\quad} \text{ cubic in.}$$

2.



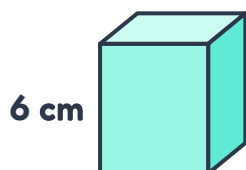
$$V = l \times w \times h$$

$$V = \underline{\quad} \times \underline{\quad} \times \underline{\quad}$$

$$V = \underline{\quad} \text{ cubic ft}$$

Use $V = B \times h$. B is the area of the base.

3.



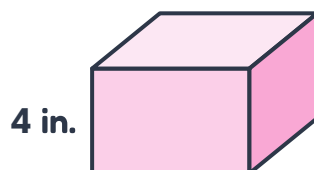
$$B = 20 \text{ square cm}$$

$$V = B \times h$$

$$V = \underline{\quad} \times \underline{\quad}$$

$$V = \underline{\quad} \text{ cubic cm}$$

4.



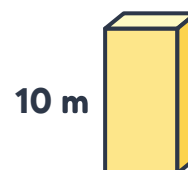
$$B = 36 \text{ square in.}$$

$$V = B \times h$$

$$V = \underline{\quad} \times \underline{\quad}$$

$$V = \underline{\quad} \text{ cubic in.}$$

5.



$$B = 15 \text{ square m}$$

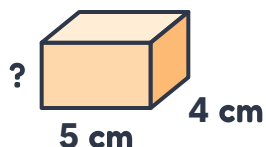
$$V = B \times h$$

$$V = \underline{\quad} \times \underline{\quad}$$

$$V = \underline{\quad} \text{ cubic m}$$

Find the missing edge.

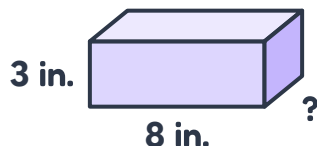
6.



$$V = 60 \text{ cubic cm}$$

$$5 \times 4 \times \underline{\quad} = 60 \quad ? = \underline{\quad} \text{ cm}$$

7.



$$V = 96 \text{ cubic in.}$$

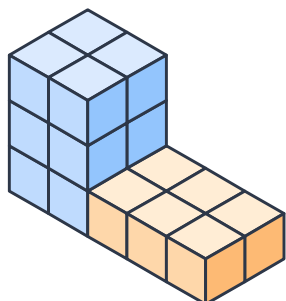
$$8 \times 3 \times \underline{\quad} = 96 \quad ? = \underline{\quad} \text{ in.}$$

Volume of Prisms

Find the volume of each part. Then add.

Count the cubic units in each part, then in the whole figure.

1.

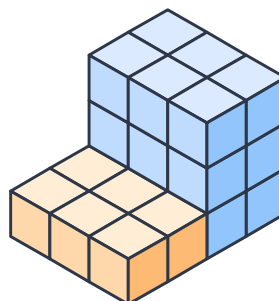


 Part 1: _____

 Part 2: _____

In all: _____

2.



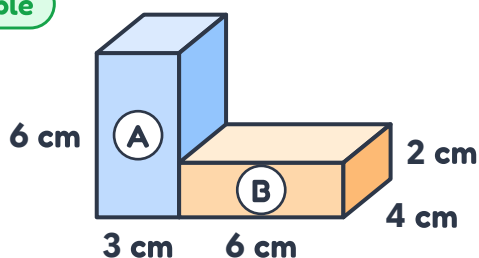
 Part 1: _____

 Part 2: _____

In all: _____

Find the volume of part A and part B. Add to find the volume.

Example

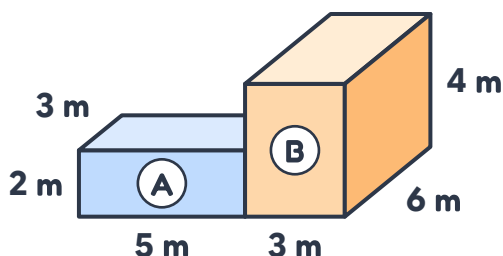


Part A: $3 \times 4 \times 6 = 72$

Part B: $6 \times 4 \times 2 = 48$

Volume: $72 + 48 = 120$
cubic cm

2.

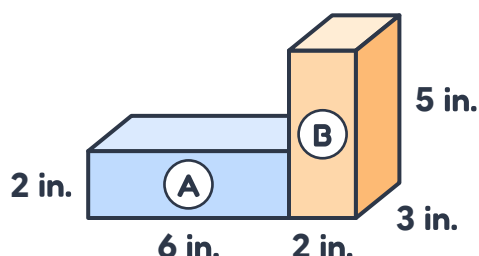


Part A: _____ $\times$ _____ $\times$ _____ = _____

Part B: _____ $\times$ _____ $\times$ _____ = _____

Volume: _____ + _____ = _____
cubic m

3.



Part A: _____ $\times$ _____ $\times$ _____ = _____

Part B: _____ $\times$ _____ $\times$ _____ = _____

Volume: _____ + _____ = _____
cubic in.

Volume of Prisms

Solve each problem. Show your work.

Solve.

1. A cereal box is 8 in. long, 3 in. wide, and 12 in. tall. What is its volume?
_____ cubic in.

2. A fish tank is 20 in. long, 10 in. wide, and 12 in. tall. How much water fills it?
_____ cubic in.

3. A sandbox is 6 ft long, 5 ft wide, and 2 ft deep. How much sand fills it?
_____ cubic ft

4. A box holds 120 cubic cm. It is 6 cm long and 5 cm wide. How tall is it?
_____ cm

5. Two gift boxes are each 4 in. by 3 in. by 2 in. What is their total volume?
_____ cubic in.

6. The base of a planter has an area of 18 square ft. It is 2 ft tall. What is its volume?
_____ cubic ft

Which measure fits? Circle perimeter, area, or volume.

7. a fence around a garden
perimeter area volume

8. sand to fill a sandbox
perimeter area volume

9. carpet to cover a floor
perimeter area volume

10. a ribbon around a frame
perimeter area volume

11. water to fill a fish tank
perimeter area volume

12. paint to cover a wall
perimeter area volume

Circle every box with a volume of 24 cubic units.

$2 \times 3 \times 4$

$2 \times 2 \times 6$

$3 \times 3 \times 3$

$1 \times 4 \times 6$

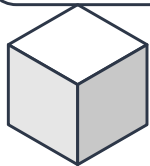
$4 \times 4 \times 2$

$3 \times 8 \times 1$

Volume of Prisms

Count the unit cubes in each box shape. Write the volume.

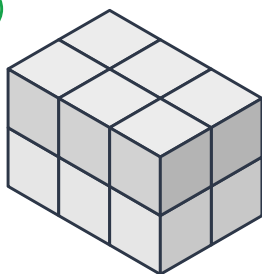
Volume



A unit cube is 1 cubic unit.

Volume is the number of unit cubes that fill a solid with no gaps.

Example



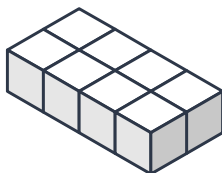
Count one layer at a time.

1 layer has 6 cubes. There are 2 layers.

$$2 \times 6 = \underline{12} \text{ cubic units}$$

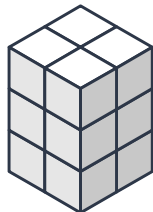
Each cube is 1 cubic unit.

1.



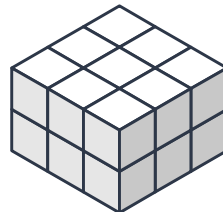
1 cube = 1 cubic unit
_____ cubic units

2.



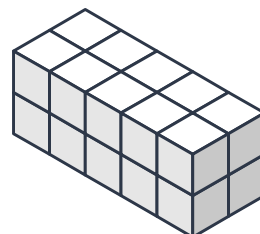
1 cube = 1 cubic cm
_____ cubic cm

3.



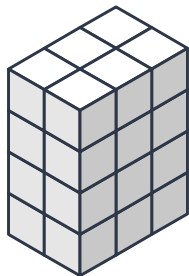
1 cube = 1 cubic inch
_____ cubic in.

4.



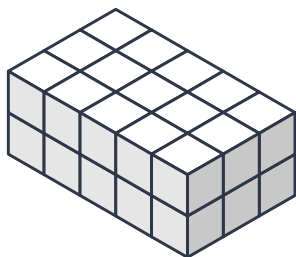
1 cube = 1 cubic unit
_____ cubic units

5.



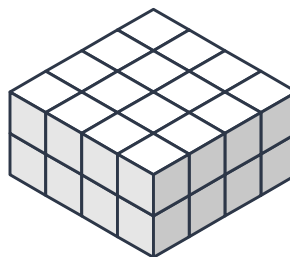
1 cube = 1 cubic foot
_____ cubic ft

6.



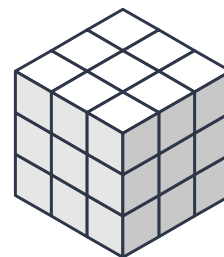
1 cube = 1 cubic cm
_____ cubic cm

7.



1 cube = 1 cubic inch
_____ cubic in.

8.

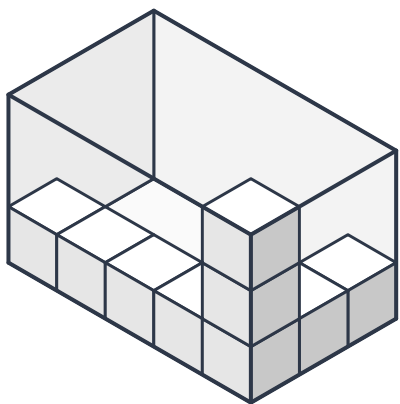


1 cube = 1 cubic foot
_____ cubic ft

Volume of Prisms

Find each volume in cubic units: bottom layer $\times$ layers.

Example

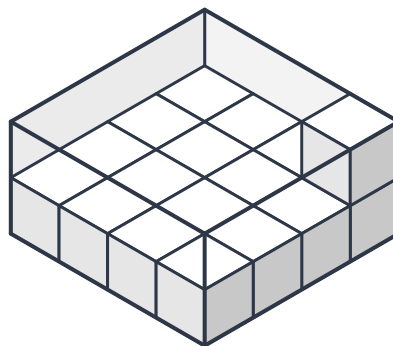


Bottom layer: 5 $\times$ 3 = 15

Number of layers: 3

Volume: 15 $\times$ 3 = 45

1.

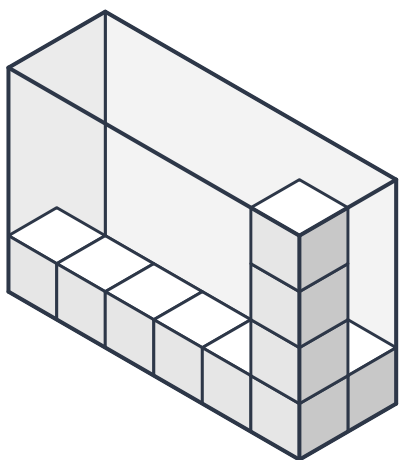


Bottom layer: _____ $\times$ _____ = _____

Number of layers: _____

Volume: _____ $\times$ _____ = _____

2.

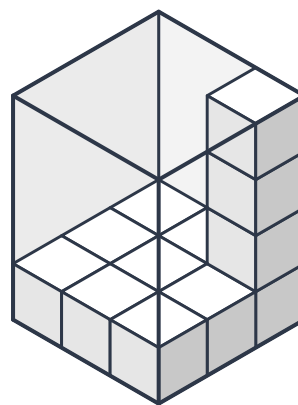


Bottom layer: _____ $\times$ _____ = _____

Number of layers: _____

Volume: _____ $\times$ _____ = _____

3.



Bottom layer: _____ $\times$ _____ = _____

Number of layers: _____

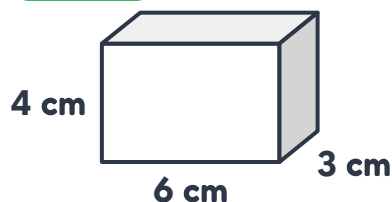
Volume: _____ $\times$ _____ = _____

Volume of Prisms

Multiply to find each volume.

Use $V = l \times w \times h$.

Example



$$V = l \times w \times h$$

$$V = 6 \times 3 \times 4$$

$$V = 72 \text{ cubic cm}$$

1.

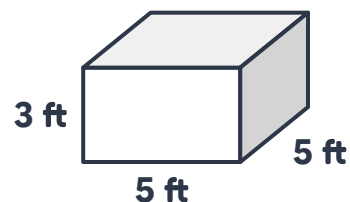


$$V = l \times w \times h$$

$$V = \underline{\quad} \times \underline{\quad} \times \underline{\quad}$$

$$V = \underline{\quad} \text{ cubic in.}$$

2.



$$V = l \times w \times h$$

$$V = \underline{\quad} \times \underline{\quad} \times \underline{\quad}$$

$$V = \underline{\quad} \text{ cubic ft}$$

Use $V = B \times h$. B is the area of the base.

3.



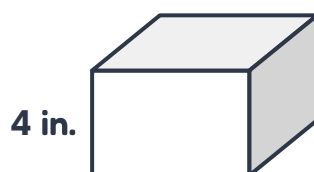
$$B = 20 \text{ square cm}$$

$$V = B \times h$$

$$V = \underline{\quad} \times \underline{\quad}$$

$$V = \underline{\quad} \text{ cubic cm}$$

4.



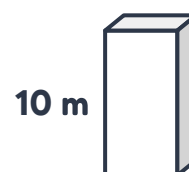
$$B = 36 \text{ square in.}$$

$$V = B \times h$$

$$V = \underline{\quad} \times \underline{\quad}$$

$$V = \underline{\quad} \text{ cubic in.}$$

5.



$$B = 15 \text{ square m}$$

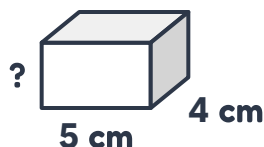
$$V = B \times h$$

$$V = \underline{\quad} \times \underline{\quad}$$

$$V = \underline{\quad} \text{ cubic m}$$

Find the missing edge.

6.



$$V = 60 \text{ cubic cm}$$

$$5 \times 4 \times \underline{\quad} = 60 \quad ? = \underline{\quad} \text{ cm}$$

7.



$$V = 96 \text{ cubic in.}$$

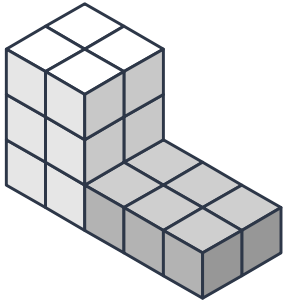
$$8 \times 3 \times \underline{\quad} = 96 \quad ? = \underline{\quad} \text{ in.}$$

Volume of Prisms

Find the volume of each part. Then add.

Count the cubic units in each part, then in the whole figure.

1.

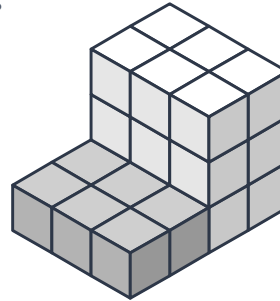


 Part 1: _____

 Part 2: _____

In all: _____

2.



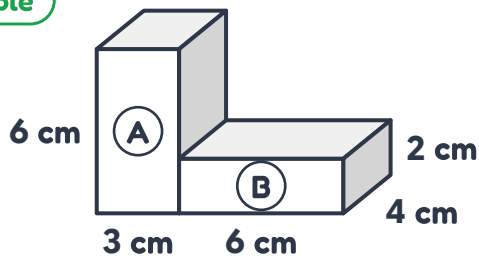
 Part 1: _____

 Part 2: _____

In all: _____

Find the volume of part A and part B. Add to find the volume.

Example

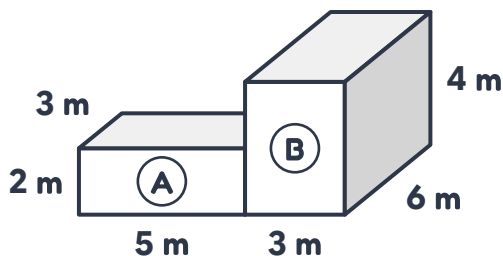


Part A: $3 \times 4 \times 6 = 72$

Part B: $6 \times 4 \times 2 = 48$

Volume: $72 + 48 = 120$
cubic cm

2.

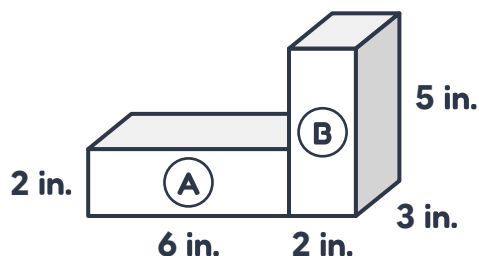


Part A: _____ $\times$ _____ $\times$ _____ = _____

Part B: _____ $\times$ _____ $\times$ _____ = _____

Volume: _____ + _____ = _____
cubic m

3.



Part A: _____ $\times$ _____ $\times$ _____ = _____

Part B: _____ $\times$ _____ $\times$ _____ = _____

Volume: _____ + _____ = _____
cubic in.

Volume of Prisms

Solve each problem. Show your work.

Solve.

1. A cereal box is 8 in. long, 3 in. wide, and 12 in. tall. What is its volume?
_____ cubic in.

2. A fish tank is 20 in. long, 10 in. wide, and 12 in. tall. How much water fills it?
_____ cubic in.

3. A sandbox is 6 ft long, 5 ft wide, and 2 ft deep. How much sand fills it?
_____ cubic ft

4. A box holds 120 cubic cm. It is 6 cm long and 5 cm wide. How tall is it?
_____ cm

5. Two gift boxes are each 4 in. by 3 in. by 2 in. What is their total volume?
_____ cubic in.

6. The base of a planter has an area of 18 square ft. It is 2 ft tall. What is its volume?
_____ cubic ft

Which measure fits? Circle perimeter, area, or volume.

7. a fence around a garden
perimeter area volume

8. sand to fill a sandbox
perimeter area volume

9. carpet to cover a floor
perimeter area volume

10. a ribbon around a frame
perimeter area volume

11. water to fill a fish tank
perimeter area volume

12. paint to cover a wall
perimeter area volume

Circle every box with a volume of 24 cubic units.

$2 \times 3 \times 4$

$2 \times 2 \times 6$

$3 \times 3 \times 3$

$1 \times 4 \times 6$

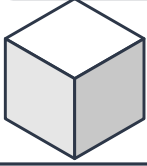
$4 \times 4 \times 2$

$3 \times 8 \times 1$

Volume of Prisms

Count the unit cubes in each box shape. Write the volume.

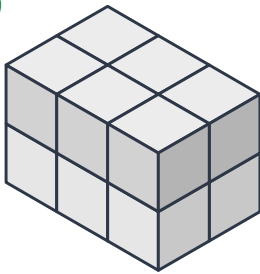
Volume



A unit cube is 1 cubic unit.

Volume is the number of unit cubes that fill a solid with no gaps.

Example



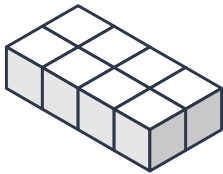
Count one layer at a time.

1 layer has 6 cubes. There are 2 layers.

$$2 \times 6 = \underline{12} \text{ cubic units}$$

Each cube is 1 cubic unit.

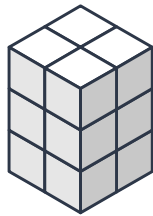
1.



1 cube = 1 cubic unit

8 cubic units

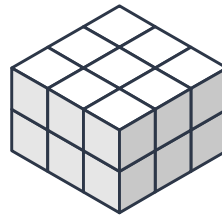
2.



1 cube = 1 cubic cm

12 cubic cm

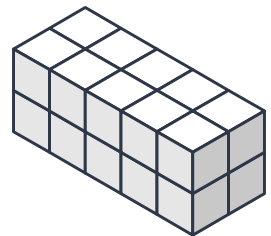
3.



1 cube = 1 cubic inch

18 cubic in.

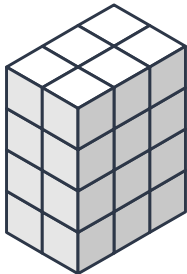
4.



1 cube = 1 cubic unit

20 cubic units

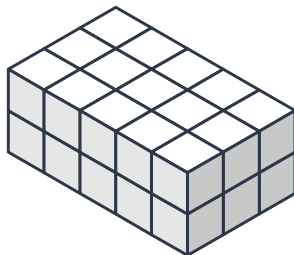
5.



1 cube = 1 cubic foot

24 cubic ft

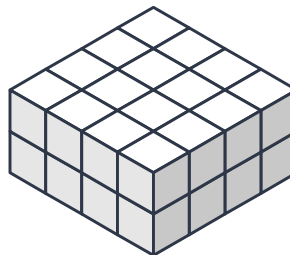
6.



1 cube = 1 cubic cm

30 cubic cm

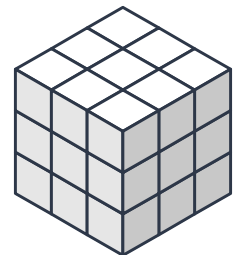
7.



1 cube = 1 cubic inch

32 cubic in.

8.



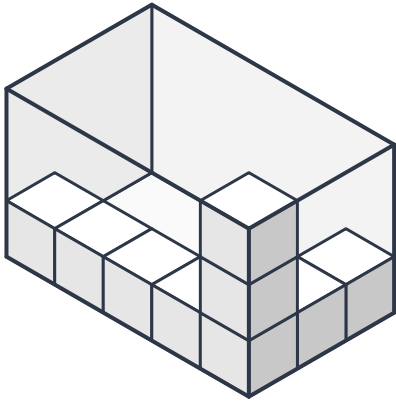
1 cube = 1 cubic foot

27 cubic ft

Volume of Prisms

Find each volume in cubic units: bottom layer $\times$ layers.

Example

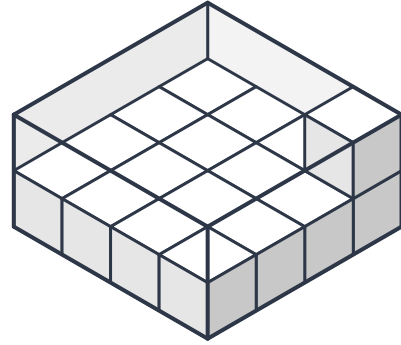


Bottom layer: $5 \times 3 = 15$

Number of layers: 3

Volume: $15 \times 3 = 45$

1.

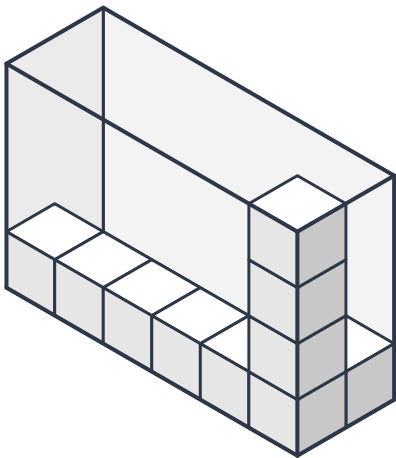


Bottom layer: $4 \times 4 = 16$

Number of layers: 2

Volume: $16 \times 2 = 32$

2.

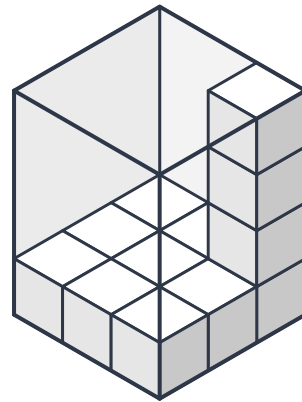


Bottom layer: $6 \times 2 = 12$

Number of layers: 4

Volume: $12 \times 4 = 48$

3.



Bottom layer: $3 \times 3 = 9$

Number of layers: 4

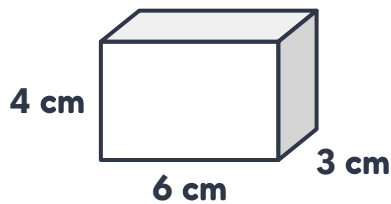
Volume: $9 \times 4 = 36$

Volume of Prisms

Multiply to find each volume.

Use $V = l \times w \times h$.

Example

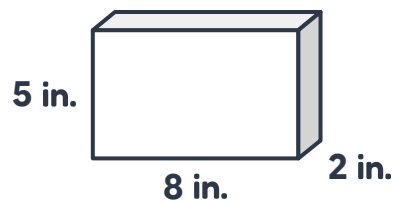


$$V = l \times w \times h$$

$$V = 6 \times 3 \times 4$$

$$V = 72 \text{ cubic cm}$$

1.

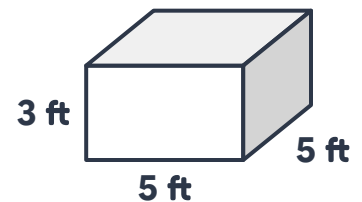


$$V = l \times w \times h$$

$$V = 8 \times 2 \times 5$$

$$V = 80 \text{ cubic in.}$$

2.



$$V = l \times w \times h$$

$$V = 5 \times 5 \times 3$$

$$V = 75 \text{ cubic ft}$$

Use $V = B \times h$. B is the area of the base.

3.



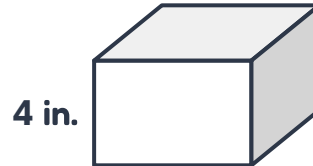
$$B = 20 \text{ square cm}$$

$$V = B \times h$$

$$V = 20 \times 6$$

$$V = 120 \text{ cubic cm}$$

4.



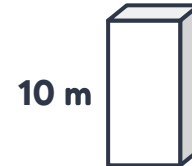
$$B = 36 \text{ square in.}$$

$$V = B \times h$$

$$V = 36 \times 4$$

$$V = 144 \text{ cubic in.}$$

5.



$$B = 15 \text{ square m}$$

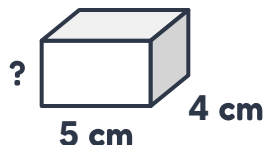
$$V = B \times h$$

$$V = 15 \times 10$$

$$V = 150 \text{ cubic m}$$

Find the missing edge.

6.



$$V = 60 \text{ cubic cm}$$

$$5 \times 4 \times 3 = 60 \quad ? = 3 \text{ cm}$$

7.



$$V = 96 \text{ cubic in.}$$

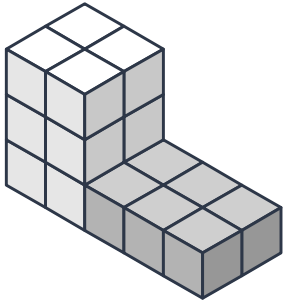
$$8 \times 3 \times 4 = 96 \quad ? = 4 \text{ in.}$$

Volume of Prisms

Find the volume of each part. Then add.

Count the cubic units in each part, then in the whole figure.

1.

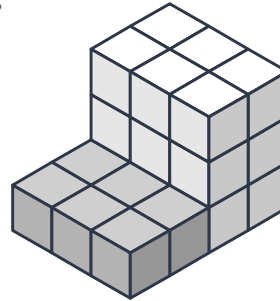


 Part 1: 12

 Part 2: 6

In all: 18

2.



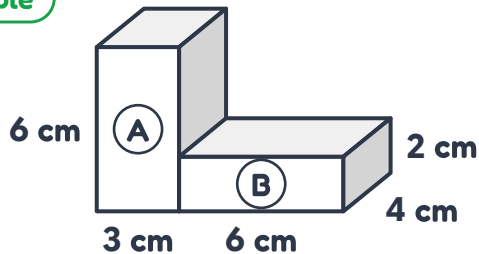
 Part 1: 18

 Part 2: 6

In all: 24

Find the volume of part A and part B. Add to find the volume.

Example



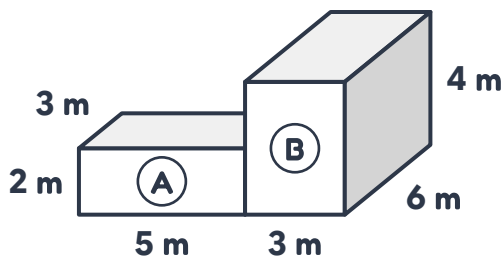
$$\text{Part A: } \underline{3} \times \underline{4} \times \underline{6} = \underline{72}$$

$$\text{Part B: } \underline{6} \times \underline{4} \times \underline{2} = \underline{48}$$

$$\text{Volume: } \underline{72} + \underline{48} = \underline{120}$$

cubic cm

2.



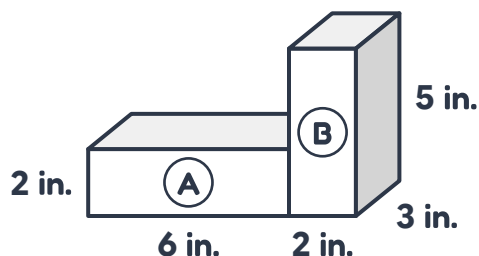
$$\text{Part A: } \underline{5} \times \underline{3} \times \underline{2} = \underline{30}$$

$$\text{Part B: } \underline{3} \times \underline{6} \times \underline{4} = \underline{72}$$

$$\text{Volume: } \underline{30} + \underline{72} = \underline{102}$$

cubic m

3.



$$\text{Part A: } \underline{6} \times \underline{3} \times \underline{2} = \underline{36}$$

$$\text{Part B: } \underline{2} \times \underline{3} \times \underline{5} = \underline{30}$$

$$\text{Volume: } \underline{36} + \underline{30} = \underline{66}$$

cubic in.

Volume of Prisms

Solve each problem. Show your work.

Solve.

1. A cereal box is 8 in. long, 3 in. wide, and 12 in. tall. What is its volume?

288 cubic in.

2. A fish tank is 20 in. long, 10 in. wide, and 12 in. tall. How much water fills it?

2,400 cubic in.

3. A sandbox is 6 ft long, 5 ft wide, and 2 ft deep. How much sand fills it?

60 cubic ft

4. A box holds 120 cubic cm. It is 6 cm long and 5 cm wide. How tall is it?

4 cm

5. Two gift boxes are each 4 in. by 3 in. by 2 in. What is their total volume?

48 cubic in.

6. The base of a planter has an area of 18 square ft. It is 2 ft tall. What is its volume?

36 cubic ft

Which measure fits? Circle perimeter, area, or volume.

7. a fence around a garden

perimeter area volume

8. sand to fill a sandbox

perimeter area volume

9. carpet to cover a floor

perimeter area volume

10. a ribbon around a frame

perimeter area volume

11. water to fill a fish tank

perimeter area volume

12. paint to cover a wall

perimeter area volume

Circle every box with a volume of 24 cubic units.

$2 \times 3 \times 4$

$2 \times 2 \times 6$

$3 \times 3 \times 3$

$1 \times 4 \times 6$

$4 \times 4 \times 2$

$3 \times 8 \times 1$