



## Level 1: Measurement and Data Posttest Answer Key

### Question 1:

Kendall is a pipe fitter. She uses a tool to cut pieces of pipe. The tool will cut pipe that is equal to or greater than  $\frac{1}{3}$  of a foot in length.

Which of the pipes below could have been cut with Kendall's tool?

1" **L**

3" **M**

4" **N**

5" **O**

(Select all that apply.)

a. L

b. M

c. N

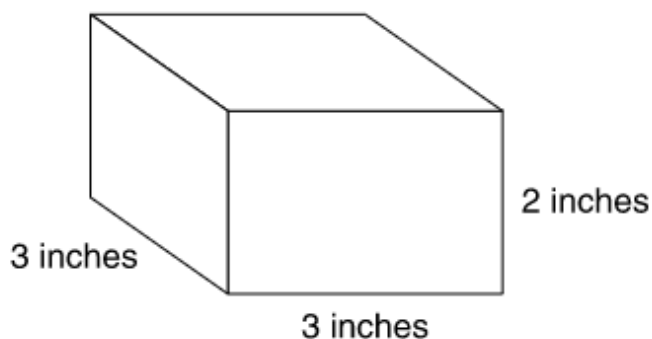
d. O

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**Question 2:**

This figure is a rectangular prism.



What is the volume, in cubic inches, of the prism?

- a.  $8 \text{ in}^3$
- b.  $9 \text{ in}^3$
- c.  $11 \text{ in}^3$
- ☒ d.  $18 \text{ in}^3$

**Question 3:**

The diagram shows a rectangular freezer.



A grocery uses the freezer for square containers of frozen meat. Each container is equal to 1 unit cube. The bottom of the freezer holds 20 containers. Six layers of containers fill the freezer.

What is the volume of the freezer, in cubic units?

cubic units

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**Question 4:**

A camp counselor needs 12 pieces of rope that are each  $3\frac{1}{2}$  feet long.

How many yards of rope does the camp counselor need?

- a. 14 yd
- b. 39 yd
- c. 42 yd
- d. 126 yd

**Question 5:**

Madison made  $1\frac{1}{2}$  gallons of punch. She used

- 2 pints of lemonade and
- 3 quarts of ginger ale.

The rest of the punch was orange juice.

How many quarts of orange juice did Madison use?

- a. 2 qt
- b.  $2\frac{1}{2}$  qt
- c. 8 qt
- d.  $8\frac{1}{2}$  qt

**Question 6:**

Sharon walked 5000 meters to raise money for a charity.

How far, in kilometers, did she walk?

5 kilometers

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**Question 7:**

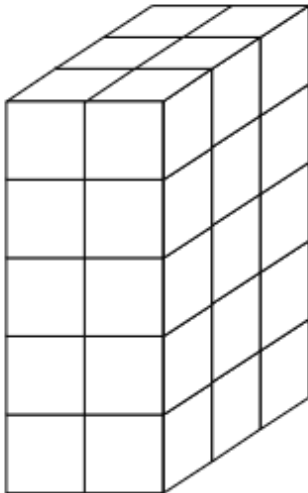
A fish tank at an aquarium is in the shape of a rectangular prism. It is 12 feet long, 15 feet wide, and 10 feet deep.

What is the volume, in cubic feet, of the tank?

cubic feet

**Question 8:**

This rectangular prism was made by stacking cubes with edges that are each 1 inch long.



What is the volume, in cubic inches, of the prism?

cubic inches

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**Question 9:**

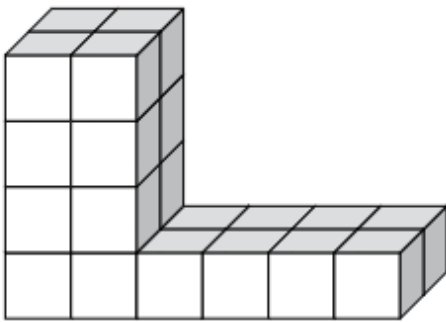
The volume of a box is 72 cubic inches. The area of the bottom of the box is 18 square inches.

What is the height of the box, in inches?

- a. 54 in
- b. 27 in
- c. 8 in
- ☒ d. 4 in

**Question 10:**

Ken made this figure with blocks.



Each block is a cube with a side length of 1 centimeter.

What is the volume of the figure?

- a. 12 cubic centimeters
- ☒ b. 24 cubic centimeters
- c. 32 cubic centimeters
- d. 48 cubic centimeters



**Question 11:**

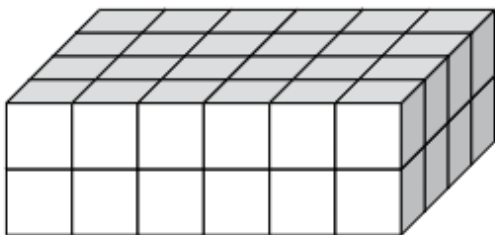
A container is in the shape of a rectangular prism. The base of the container has an area of 60 square inches. When 180 cubic inches of water is poured into the container, the water level is 2 inches from the top of the container.

What is the volume of the container?

- a. 120 cubic inches
- b. 180 cubic inches
- c. 240 cubic inches
- ☒ d. 300 cubic inches

**Question 12:**

A rectangular prism is sitting on its base as shown.



The volume of each unit cube is 1 cubic inch.

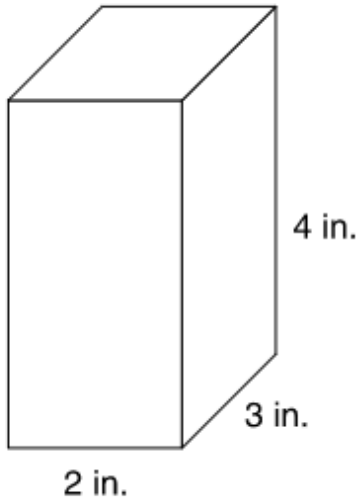
What is the area of the base of the prism?

- a.  $8 \text{ in}^2$
- b.  $12 \text{ in}^2$
- ☒ c.  $24 \text{ in}^2$
- d.  $48 \text{ in}^2$



**Question 13:**

Kyle multiplies  $2 \times 3 \times 4$  to find the volume of this rectangular prism.



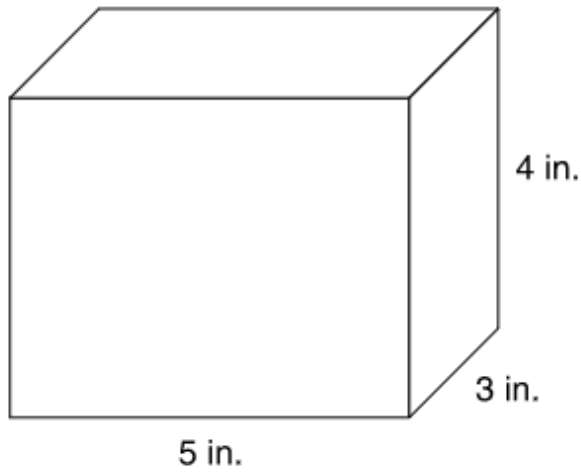
Which is **not** another way to find the volume?

- a.  $(3 \times 4) + (3 \times 4)$
- b.  $(2 \times 4) + (2 \times 4) + (2 \times 4)$
- c.  $(2 \times 3) + (2 \times 3) + (2 \times 3)$
- d.  $(2 \times 3) + (2 \times 3) + (2 \times 3) + (2 \times 3)$



**Question 14:**

Jim has a box where he keeps his wooden blocks. The box is a rectangular prism.



Each block is a cube with an edge length of 1 inch.

What is the greatest number of blocks that can fit in the box?

a. 27

b. 35

c. 60

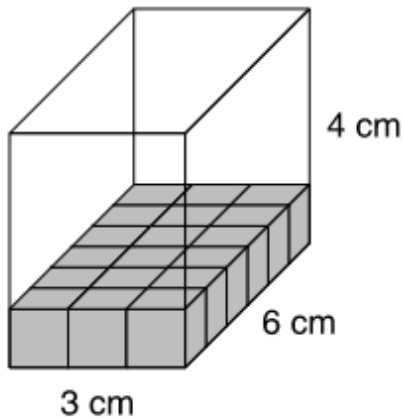
d. 82

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**Question 15:**

Anthony fills the bottom layer of a rectangular prism with cubes. Each cube has an edge length of 1 centimeter.



Which of these will give Anthony the volume of the prism?

- a. counting the cubes and multiplying that number by 3
- ☒ b. counting the cubes and multiplying that number by 4
- c. counting the cubes and multiplying that number by  $3 \times 6$
- d. counting the cubes and multiplying that number by  $4 \times 6$

**Question 16:**

A railroad car shaped like a rectangular prism is 20 feet long, 8 feet wide, and 9 feet high. What is the volume of the railroad car?

- a. 160 cubic feet
- b. 340 cubic feet
- c. 1,280 cubic feet
- ☒ d. 1,440 cubic feet



**Question 17:**

A room shaped like a rectangular prism has a volume of 1440 cubic feet. The height of the room is 8 feet.

Which could be the dimensions of the floor?

- ☒ a. 15 feet by 12 feet
- ☐ b. 20 feet by 72 feet
- ☐ c. 50 feet by 40 feet
- ☐ d. 90 feet by 90 feet

**Question 18:**

A sandbox shaped like a rectangular prism is 4 feet long, 3 feet wide, and 2 feet high. Jason puts 6 cubic feet of sand in the sandbox.

What is the volume of the part of the sandbox that does **not** have sand?

- ☐ a. 3 cubic feet
- ☐ b. 4 cubic feet
- ☒ c. 18 cubic feet
- ☐ d. 24 cubic feet

**Question 19:**

A swimming pool shaped like a rectangular prism is 3 meters deep. The volume of the pool is 600 cubic meters.

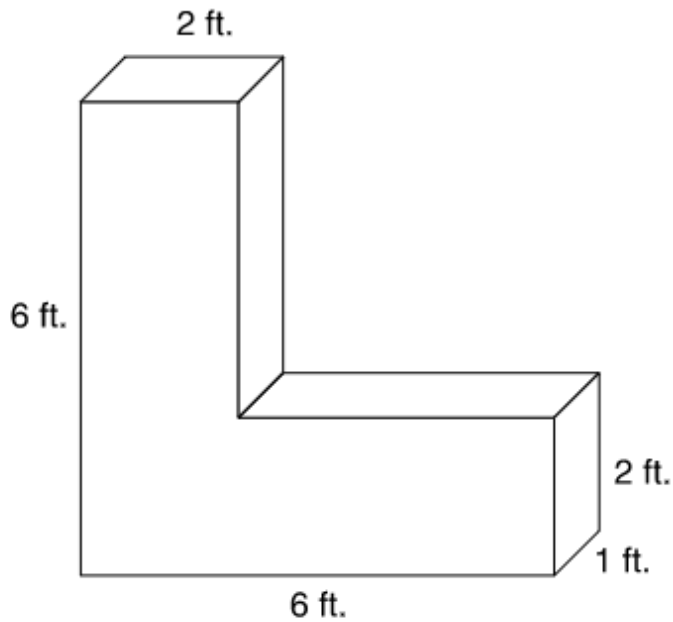
Which could **not** be the measurements of the base of the pool?

- ☐ a. 5 meters by 40 meters
- ☐ b. 8 meters by 25 meters
- ☐ c. 10 meters by 20 meters
- ☒ d. 12 meters by 30 meters



**Question 20:**

This figure is formed by two rectangular prisms.



What is the volume of the figure?

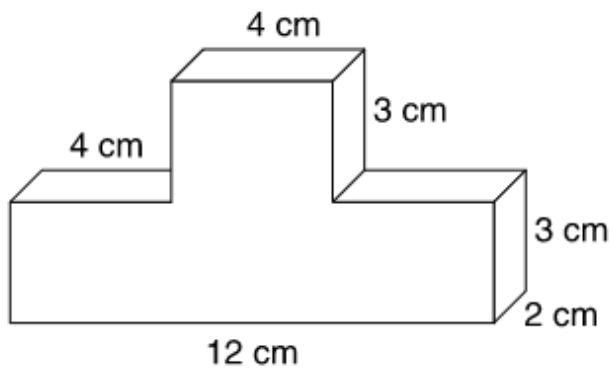
- a. 17 cubic feet
- ☒ b. 20 cubic feet
- c. 24 cubic feet
- d. 32 cubic feet

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**Question 21:**

This figure is formed by two rectangular prisms.



What is the volume of the figure?

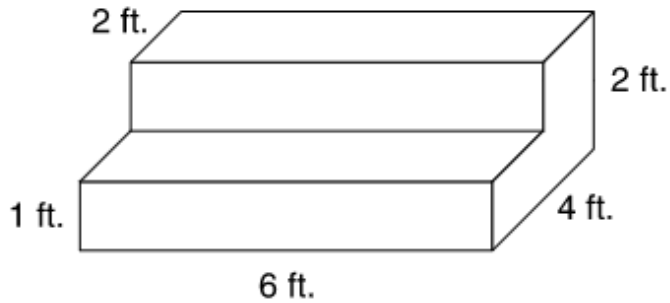
- a. 28 cubic centimeters
- b. 84 cubic centimeters
- ☒ c. 96 cubic centimeters
- d. 120 cubic centimeters

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**Question 22:**

Francis is making cement steps in the shape of rectangular prisms.



How much cement is needed to make the steps?

- a. 15 cubic feet
- ☒ b. 36 cubic feet
- c. 48 cubic feet
- d. 60 cubic feet