



New York State Testing Program

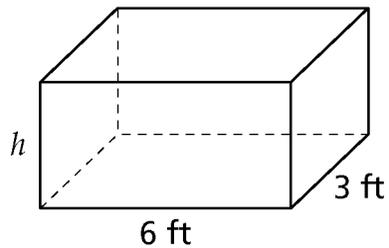
Mathematics Test

Grade **6**

2009 Scoring Guide

31

A shipping company uses large crates to ship certain items. A diagram of one of the crates is shown below.



[not drawn to scale]

$$V = lwh$$

The volume of the crate is 72 cubic feet. What is the height, in feet, of the crate?

Show your work.

Answer _____ feet

QUESTION 31

STRAND 4: MEASUREMENT

Complete and Correct Response:

- $V = lwh$
 $72 = (6)(3)(h)$
 $72 = 18h$
 $72 \div 18 = 18h \div 18$
 $4 = h$

OR other valid process

AND

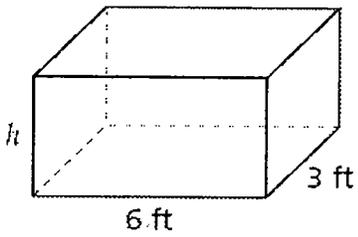
- 4 (feet)

Score Points:

Apply 2-point holistic rubric.

31

A shipping company uses large crates to ship certain items. A diagram of one of the crates is shown below.



[not drawn to scale]

$$V = lwh$$

The volume of the crate is 72 cubic feet. What is the height, in feet, of the crate?

Show your work.

$$\begin{aligned} V &= lwh \\ 72 &= 6 \times 3 \times h \\ 72 &= 18 \times h \\ 72 &= 6 \times 3 \times 4 \\ 72 &= 18 \times 4 \end{aligned}$$

$$\frac{18h}{18} = \frac{72}{18}$$
$$18 \overline{) 72} \quad 4$$
$$\begin{array}{r} 2 \ 18 \\ \times 4 \\ \hline 72 \end{array}$$

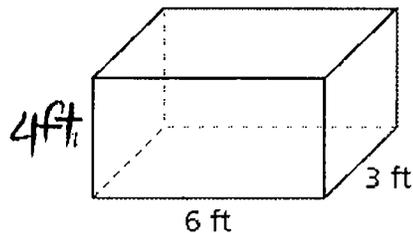
Answer 4 feet

This response is complete and correct.

Score Point 2

31

A shipping company uses large crates to ship certain items. A diagram of one of the crates is shown below.



[not drawn to scale]

$$V = lwh$$

The volume of the crate is 72 cubic feet. What is the height, in feet, of the crate?

Show your work.

$$\begin{array}{r} 3 \\ 18 \\ \hline 72 \text{ cubic ft.} \end{array}$$

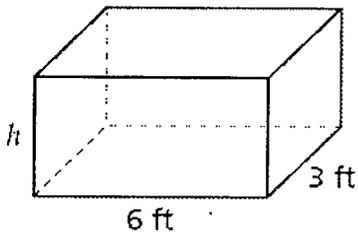
Answer 4 feet

This response is complete and correct. Although some work is not shown, the final procedure is fully demonstrated.

Score Point 2

31

A shipping company uses large crates to ship certain items. A diagram of one of the crates is shown below.



[not drawn to scale]

$$V = lwh$$

The volume of the crate is 72 cubic feet. What is the height, in feet, of the crate?

Show your work.

$$\begin{aligned}
 V &= l \times w \times h \\
 V &= 72 \text{ ft}^3 \\
 6 \times 3 &= 18 \text{ ft} \\
 h &= 72 \text{ ft}
 \end{aligned}$$

$$\begin{array}{r}
 4 \\
 18 \overline{) 72} \\
 \underline{72} \\
 0
 \end{array}$$

$$\begin{array}{r}
 2 \quad 3 \\
 18 \quad 18 \\
 \times 3 \quad \times 4 \\
 \hline
 54 \quad 72
 \end{array}$$

Answer 72 feet

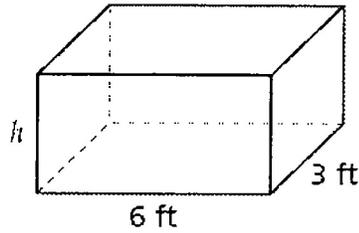
$$\begin{array}{r}
 3 \\
 3 \quad 18 \\
 \times 4 \\
 \hline
 72
 \end{array}$$

This response is only partially correct. An incorrect answer is entered on the answer line, and although a correct math procedure is provided, it is not clear. The additional multiplication procedure is considered a valid check.

Score Point 1

31

A shipping company uses large crates to ship certain items. A diagram of one of the crates is shown below.



[not drawn to scale]

$$V = lwh$$

The volume of the crate is 72 cubic feet. What is the height, in feet, of the crate?

Show your work.

$$\begin{aligned} V &= lwh \\ V &= 6 \times 3 \times ? \\ V &= 18 \times ? \\ V &= 18 \div 72 \\ V &= h = 4 \end{aligned}$$

$$\begin{array}{r} 18 \overline{) 72} \\ \underline{- 18} \\ 0 \end{array}$$

$h = 4$

$$\begin{array}{r} 28 \\ \times 3 \\ \hline 84 \end{array}$$

$$\begin{array}{r} 318 \\ \times 4 \\ \hline 1272 \end{array}$$

$$\begin{array}{r} 24 \\ \times 3 \\ \hline 72 \end{array}$$

Answer 4 feet

$$\begin{aligned} V &= lwh \\ V &= (6) \times (3) \times (4) \\ V &= (18) \times (4) \\ V &= 72 \text{ ft.} \end{aligned}$$

$$\begin{array}{r} 318 \\ \times 4 \\ \hline 1272 \end{array}$$

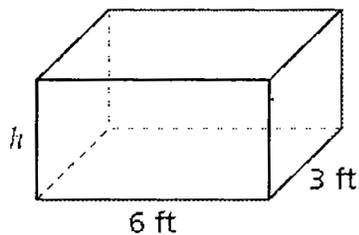
- 1) $6 \times 3 = 18$
- 2) $18 \div 72 = 4$
- 3) $6 \times 3 \times 4 = 72$

This response is only partially correct. A sound procedure is demonstrated to arrive at the correct answer; however, the work shown contains an incorrect mathematical statement.

Score Point 1

31

A shipping company uses large crates to ship certain items. A diagram of one of the crates is shown below.



[not drawn to scale]

$$V = lwh$$

The volume of the crate is 72 cubic feet. What is the height, in feet, of the crate?

Show your work.

$$6 \times 3 = 18$$

$$V = lwh$$

Answer _____ feet

This response is incorrect.

Score Point 0



New York State Testing Program

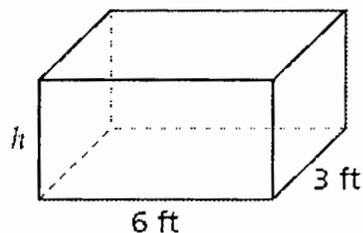
Mathematics Test

Grade **6**

2009 Practice Set

31

A shipping company uses large crates to ship certain items. A diagram of one of the crates is shown below.



[not drawn to scale]

$$V = lwh$$

The volume of the crate is 72 cubic feet. What is the height, in feet, of the crate?

Show your work.

$$6 \times 3 = 24$$

$$\begin{array}{r} 3 \\ 24 \overline{) 72} \\ \underline{-72} \\ 0 \end{array}$$

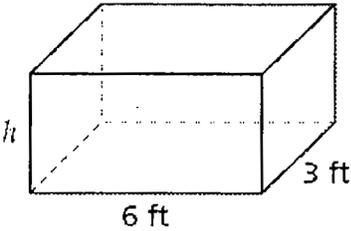
$$\begin{array}{r} 3 \\ 24 \\ 24 \\ 24 \\ 72 \end{array}$$

Answer 3 feet

$$24 \times 3 = 72$$

31

A shipping company uses large crates to ship certain items. A diagram of one of the crates is shown below.



[not drawn to scale]

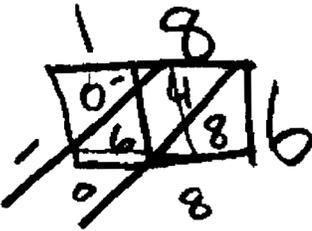
$$V = lwh$$

The volume of the crate is 72 cubic feet. What is the height, in feet, of the crate?

Show your work.

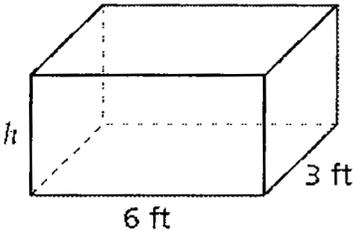
$$6 \cdot 3 = 18$$

Answer 108 feet



31

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[not drawn to scale]

$$V = lwh$$

The volume of the crate is 72 cubic feet. What is the height, in feet, of the crate?

Show your work.

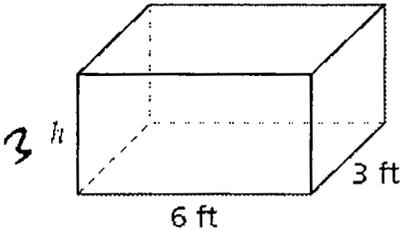
Answer 4 feet

$$\begin{array}{r} 18 \\ \times 4 \\ \hline 72 \end{array}$$

~~$$\begin{array}{r} 18 \\ \times 4 \\ \hline 72 \end{array}$$~~

31

A shipping company uses large crates to ship certain items. A diagram of one of the crates is shown below.



[not drawn to scale]

$$V = lwh$$

The volume of the crate is 72 cubic feet. What is the height, in feet, of the crate?

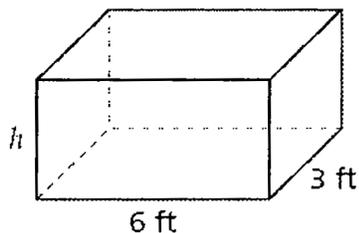
Show your work.

$$\begin{aligned} V &= l \times w \times h \\ 6 \times 3 \times 3 &= 72 \\ 18 \times 3 &= 72 \\ 54 &= 72 \end{aligned}$$
$$\begin{array}{r} 218 \\ + 3 \\ \hline 54 \end{array}$$

Answer 54 feet

31

A shipping company uses large crates to ship certain items. A diagram of one of the crates is shown below.



[not drawn to scale]

$$V = lwh$$

The volume of the crate is 72 cubic feet. What is the height, in feet, of the crate?

Show your work.

$$72 = 18h$$

$$\begin{array}{r} 5 \\ 18 \overline{) 72} \\ \underline{90} \\ 72 \\ \underline{72} \\ 0 \end{array}$$

Answer 5 feet

6th GRADE MATHEMATICS

Name: _____

PRACTICE SET ANSWER KEY

PS 1	(0-2)	
PS 2	(0-2)	
PS 3	(0-2)	
PS 4	(0-2)	
PS 5	(0-2)	
PS 6	(0-2)	
PS 7	(0-2)	
PS 8	(0-2)	
PS 9	(0-2)	
PS 10	(0-2)	
PS 11	(0-2)	
PS 12	(0-2)	
PS 13	(0-2)	
PS 14	(0-2)	
PS 15	(0-2)	
PS 16	(0-2)	
PS 17	(0-2)	
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PS 19	(0-2)	
PS 20	(0-2)	
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PS 46	(0-3)	
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PS 50	(0-3)	