Name_____ Date_____ Period_____

LESSON 5-5 · SESSION 1 · PRACTICE · FORM B

Volume of Rectangular Prisms

Learning target – I can find the volume of a rectangular prism by multiplying length, width, and height. · 6.G.A.2

REMEMBER

- **Volume** is the space inside a solid, counted in unit cubes. Write **cubic units**: cm^3, in^3, ft^3.
- One layer = length × width = **base area B**. The height counts the layers.
- **V = l × w × h** or **V = B × h**.

WORKED EXAMPLE

A box is 6 cm long, 3 cm wide, and 4 cm tall.

Step 1 One layer: 6 × 3 = 18 cubes.

Step 2 4 layers stack up.

Step 3 18 × 4 = 72.

Answer **V = 72 cm^3**

WORDS **volume** *(volumen)* · **rectangular prism** *(prisma rectangular)* · **cubic units** *(unidades cúbicas)*

PRACTICE

show your work · label units

1. Find the volume of each rectangular prism.

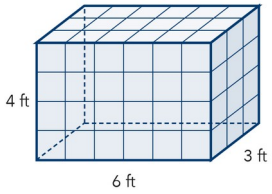
a. 9 cm × 5 cm × 6 cm ___ cm^3

b. 8 ft × 3 ft × 2 ft ___ ft^3

c. 10 ft × 7 ft × 2 ft ___ ft^3

d. B = 36 in^2, h = 8 in ___ in^3

2. **Toy Chest.** A toy chest is packed with cubes 1 ft on each edge, as shown.

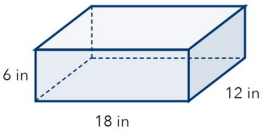


a. Cubes in the bottom layer _____

b. Number of layers _____

c. Volume of the chest _____ ft^3

3. **Fish Tank.** A fish tank is 18 in long, 12 in wide, and 6 in tall.



Hint *Find the base first. The height counts the layers.*

a. Area of the base _____ in^2

b. Volume of the tank _____ in^3

Show your work.

4. Locker Space. A locker is 14 in wide, 12 in deep, and 50 in tall. Find its volume.

Hint *Base = width × depth. Then multiply by the height.*

Show your work.

Answer_____ in³

5. Sandbox Fill. A sandbox is 24 ft long and 12 ft wide. Sand is poured in 2 ft deep. How much sand is needed?

Hint *The depth of the sand is the height.*

Show your work.

Answer_____ ft³

6. Rosa's Box. A box is 19 cm long, 11 cm wide, and 4 cm tall. Rosa says its volume is 209 cm³. Is Rosa right?

Hint *How many edges did Rosa use? A prism has three.*

Show your work.

True volume_____

7. Two Cartons. Carton A is 16 cm by 6 cm by 10 cm. Carton B is 12 cm by 10 cm by 7 cm. Which carton holds more? How much more?

Show your work.

Carton, how much_____

8. Aquarium. An aquarium is 50 cm long, 30 cm wide, and 40 cm tall. One liter of water fills 1,000 cm³.

a. Find the volume. _____ cm³

b. How many liters fill it? _____ L

c. It is filled only 30 cm deep. How many liters? _____ L

Show your work.

FIND THE ERROR

explain the mistake, then fix it

9. Malik's Work. A crate is 12 ft long, 9 ft wide, and 5 ft tall. Malik wrote: "V = 12 + 9 + 5 = 26 ft³." Explain the mistake and find the correct volume.

_____

_____

_____

TEST PRACTICE

choose the best answer

10. A prism is 2 m by 6 m by 5 m. Its volume is –

A 13 m^3 **B** 60 m^2 **C** 60 m^3 **D** 70 m^3

11. In V = B × h, the letter B stands for the –

A base area **B** biggest edge **C** box **D** base edge

SELF-CHECK CODE *find your answer · copy its letter into that problem's box · spell a math word*

72 C	60 N	836 A	8,400 N	209 Q	45 S	576 T	120 I	1,296 O	168 Z

#2c	#3b	#4	#5	#6	#7	#8b	#8c

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #___