Name_____ Date_____ Period_____

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

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.

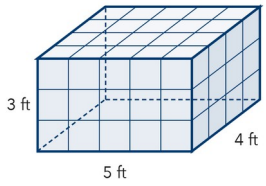
a. 8 cm × 6 cm × 9 cm ___ cm^3

b. 7 ft × 4 ft × 3 ft ___ ft^3

c. 9 ft × 6 ft × 2 ft ___ ft^3

d. B = 42 in^2, h = 7 in ___ in^3

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

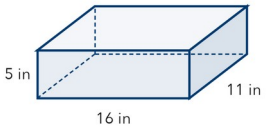


a. Cubes in the bottom layer _____

b. Number of layers _____

c. Volume of the chest _____ ft^3

3. **Fish Tank.** A fish tank is 16 in long, 11 in wide, and 5 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 12 in wide, 15 in deep, and 48 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 26 ft long and 11 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. **Ian's Box.** A box is 17 cm long, 13 cm wide, and 5 cm tall. Ian says its volume is 221 cm³. Is Ian right?

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

Show your work.

True volume_____

7. **Two Cartons.** Carton A is 18 cm by 5 cm by 11 cm. Carton B is 15 cm by 11 cm by 5 cm. Which carton holds more? How much more?

Show your work.

Carton, how much_____

8. **Aquarium.** An aquarium is 60 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 35 cm deep. How many liters? _____ L

Show your work.

FIND THE ERROR

explain the mistake, then fix it

9. **Tomás's Work.** A crate is 15 ft long, 11 ft wide, and 4 ft tall. Tomás wrote: "V = 15 + 11 + 4 = 30 ft³." Explain the mistake and find the correct volume.

_____

_____

_____

TEST PRACTICE

choose the best answer

10. A prism is 3 cm by 4 cm by 5 cm. Its volume is –

A 12 cm^3 **B** 47 cm^3 **C** 60 cm^3 **D** 60 cm^2

11. Volume is measured in –

A units **B** square units **C** cubic units **D** degrees

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

60 C	572 A	8,640 P	221 Q	1,105 C	165 I	63 Y	880 A	72 T	286 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 #___