Name_____ Date_____ Period_____

LESSON 5-5 · SESSION 2 · PRACTICE · FORM B

Missing Fractional Edges

Learning target – I can find a missing edge of a prism and find volumes with fractional edge lengths. · 6.G.A.2

REMEMBER

- **V = l × w × h** works with fractions: 12 × 10 × 3/4 = 120 × 3/4 = 90.
- 1 1/2 of a number is the number **plus half** of it.
- **Missing edge**: multiply the two known edges, then **divide** the volume by that product.

WORKED EXAMPLE

A box holds 72 cm³. It is 6 cm long and 4 cm wide.

Step 1 Known edges: 6 × 4 = 24 cm².

Step 2 Divide: 72 ÷ 24 = 3.

Step 3 Check: 6 × 4 × 3 = 72.

Answer **height = 3 cm**

WORDS **edge** *(arista)* · **fraction** *(fracción)* · **volume** *(volumen)*

PRACTICE

show your work · label units

1. Find each volume or missing edge.

a. 1/2 m × 1/2 m × 6 m ___ m³

b. 12 in × 9 in × 1/2 in ___ in³

c. V = 240 in³, w = 6 in, h = 5 in; l = ___ in

d. V = 105 in³, B = 15 in²; h = ___ in

2. **Shipping Box Limit.** A shipping box holds 1,080 in³. It is 8 in wide and 9 in tall. Boxes may be at most 13 in long.

Hint *Multiply the two known edges, then divide.*

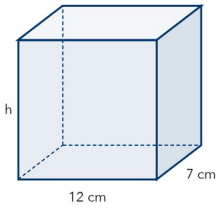
a. Multiply the two known edges. _____ in²

b. Find the length. _____ in

c. Does the box meet the rule? _____

Show your work.

3. **Planter Depth.** A planter holds 1,008 cm³ of soil. Its base is 12 cm by 7 cm. How tall is it?



Show your work.

Answer_____ cm

4. Thin Box. A flat box is 24 in long, 12 in wide, and 3/4 in tall. Find its volume.

Hint *Find the base, then take 3/4 of it.*

Show your work.

Answer_____ in³

5. Seed Flat. A seed flat is 18 in long, 10 in wide, and 1 1/2 in deep. Find its volume.

Hint *1 1/2 means the base plus half the base.*

Show your work.

Answer_____ in³

6. Concrete Slab. A concrete slab is 20 ft long, 8 ft wide, and 1/2 ft thick. Concrete costs $6 per ft³. Find the volume and the cost.

Hint *The thickness is the height.*

Show your work.

Volume, cost_____

7. Aquarium Width. An aquarium holds 4,500 in³ of water. It is 25 in long and 20 in tall. The width label wore off. Find the width.

Show your work.

Answer_____ in

8. Planter Box. A planter is 3/4 m long, 1/2 m wide, and 4 m tall. Soil costs $20 per m³.

a. Find the volume. _____ m³

b. Find the cost to fill it. _____

c. A second planter is twice as tall. Find its volume. _____ m³

Show your work.

FIND THE ERROR

explain the mistake, then fix it

9. Jonah's Work. A box holds 2,520 cm³. It is 12 cm wide and 10 cm tall. Jonah wrote: "2,520 ÷ 12 = 210, so the length is 210 cm." Explain the mistake and find the length.

TEST PRACTICE

choose the best answer

10. A prism has a volume of 96 in³ and a base area of 12 in². Its height is –

A 8 in **B** 84 in **C** 108 in **D** 1,152 in

11. A block is 1/2 ft by 1/2 ft by 8 ft. Its volume is –

A 2 ft³ **B** 4 ft³ **C** 8 ft³ **D** 9 ft³

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

15 M	1 1/2 L	480 I	3 Y	180 Z	9 P	216 L	270 T	84 Q	12 U

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

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