Name_____ Date_____ Period_____

**LESSON 5-5 · SESSION 2 · PRACTICE · FORM A**

# 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 ft × 3/4 ft × 2 ft ___ ft³

**b.** 14 in × 11 in × 1/2 in ___ in³

**c.** V = 336 in³, w = 8 in, h = 6 in; l = ___ in

**d.** V = 96 in³, B = 12 in²; h = ___ in

**2.** **Shipping Box Limit.** A shipping box holds 990 in³. It is 9 in wide and 10 in tall. Boxes may be at most 13 in long.

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

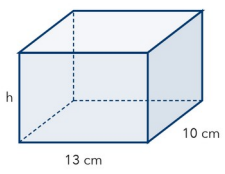
**a.** Multiply the two known edges. _____ in²

**b.** Find the length. _____ in

**c.** Does the box meet the rule? _____

*Show your work.*

**3.** **Planter Depth.** A planter holds 1,170 cm³ of soil. Its base is 13 cm by 10 cm. How tall is it?




*Show your work.*

**Answer**_____ cm

**4. Thin Box.** A flat box is 20 in long, 16 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 20 in long, 12 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 22 ft long, 9 ft wide, and 1/2 ft thick. Concrete costs $5 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 5,400 in³ of water. It is 30 in long and 18 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 2 m tall. Soil costs $18 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. Hana's Work.** A box holds 1,980 cm³. It is 11 cm wide and 9 cm tall. Hana wrote: "1,980 ÷ 11 = 180, so the length is 180 cm." Explain the mistake and find the length.

_____

_____

_____

## TEST PRACTICE

*choose the best answer*

**10.** A prism has a volume of 120 cm³, a length of 5 cm, and a width of 4 cm. Its height is –

**A** 6 cm **B** 20 cm **C** 24 cm **D** 111 cm

**11.** A block is 1/2 m by 1/2 m by 4 m. Its volume is –

**A** 1 m³ **B** 2 m³ **C** 4 m³ **D** 5 m³

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

| 10<br>I | 9<br>R | 1 1/2<br>N | 495<br>T | 3/4<br>O | 180<br>Q | 240<br>A | 360<br>C | 11<br>F | 110<br>Z |
|---|---|---|---|---|---|---|---|---|---|

| #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 #___