Name_____ Date_____ Period_____

LESSON 5-7 · SESSION 1 · PRACTICE · FORM B

Surface Area of Rectangular Prisms

Learning target – I can find the surface area of a rectangular prism by adding the areas of its six faces. · 6.G.A.4

REMEMBER

- **Surface area** is the total area of all the faces, in **square units**.
- A rectangular prism has **3 pairs** of matching faces: **SA = 2lw + 2lh + 2wh**.
- A cube has 6 matching faces: SA = 6 × (edge × edge). Open top? Leave that face out.

WORKED EXAMPLE

A closed box is 6 cm × 4 cm × 3 cm.

Step 1 Faces: 6 × 4 = 24, 6 × 3 = 18, 4 × 3 = 12.

Step 2 Double each: 48, 36, 24.

Step 3 Add: 48 + 36 + 24 = 108.

Answer **SA = 108 cm²**

WORDS **surface area** *(área superficial)* · **face** *(cara)* · **congruent** *(congruente)*

PRACTICE

show your work · label units

1. Find the surface area of each solid.

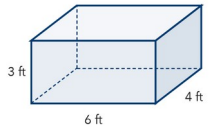
a. cube, edges 9 cm ___ cm²

b. prism 8 cm × 5 cm × 3 cm ___ cm²

c. prism 12 in × 4 in × 2 in ___ in²

d. cube, edges 5 m ___ m²

2. **Toy Chest.** Aaliyah stains the whole outside of this chest. One can covers 25 ft².



a. Top, front, and end faces _____

b. Surface area _____ ft²

c. Cans of stain needed _____

Show your work.

3. **Gift Wrap.** Kai wraps a box 14 in by 9 in by 6 in. How much paper covers it?

Hint *Find three faces, then double each.*

Show your work.

Answer_____ in²

4. **Two Cubes.** Cube A has 6 cm edges. Cube B has 8 cm edges. Both are covered in foil.

a. SA of Cube A _____ cm²

b. SA of Cube B _____ cm²

Show your work.

5. Moving Crate. A closed crate is 9 ft by 7 ft by 4 ft. Find its surface area.

Show your work.

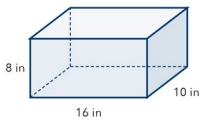
Answer_____ ft²

6. Omar's Cube. A cube has 11 in edges. Omar says its surface area is 121 in². Is Omar right?

Show your work.

Answer_____ in²

7. Shipping Carton. A closed shipping carton is 16 in long, 10 in wide, and 8 in tall. Find its surface area.



Hint *Every face has a matching face on the opposite side.*

Show your work.

Answer_____ in²

8. Painting a Crate. A crate is 10 ft long, 6 ft wide, and 5 ft tall. One can of paint covers 50 ft².

Hint *Round up: part of a can is still a whole can.*

a. Find the surface area. _____ ft²

b. How many cans paint all six faces? _____

c. No paint on the bottom: new area and cans _____

Show your work.

FIND THE ERROR

explain the mistake, then fix it

9. Kara's Work. A box is 9 cm long, 6 cm wide, and 5 cm tall. Kara wrote: "Surface area = 9 × 6 × 5 = 270 cm²." Explain the mistake and find the surface area.

_____

_____

_____

TEST PRACTICE

choose the best answer

10. A prism 5 m by 4 m by 2 m has a surface area of –

A 40 m² **B** 38 m² **C** 76 m² **D** 80 m²

11. Surface area 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*

264	726	528	216	254	280	220	108	736	1,280
Q	A	A	C	K	E	S	P	G	Z

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

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