Name_____ Date_____ Period_____

LESSON 5-7 · SESSION 2 · PRACTICE · FORM A

Surface Area of Triangular Prisms

Learning target – I can find the surface area of a triangular prism using its net. · 6.G.A.4

REMEMBER

- A triangular prism has **2 triangle ends** and **3 rectangles**: **5 faces**.
- Triangle end: ½ × base × **height**. In a right triangle, the legs are base and height.
- Each rectangle: a triangle **side** × the prism's **length**.

WORKED EXAMPLE

Prism 6 ft long; ends: base 8 ft, height 3 ft, sides 5 ft.

Step 1 Ends: 2 × (½ × 8 × 3) = 24 ft².

Step 2 Rectangles: (8 + 5 + 5) × 6 = 108 ft².

Step 3 Add: 24 + 108 = 132.

Answer **SA = 132 ft²**

WORDS **triangular prism** *(prisma triangular)* · **lateral face** *(cara lateral)* · **surface area** *(área superficial)*

PRACTICE

show your work · label units

1. Find each area.

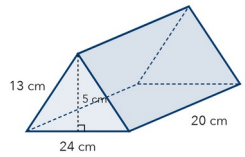
a. 2 ends, base 6 ft, height 4 ft: ___ ft²

b. rectangle 5 ft by 10 ft: ___ ft²

c. 2 ends of 9 cm² each: ___ cm²

d. rectangles 3, 4, 5 cm by 11 cm: ___ cm²

2. **Candy Box.** Both slanted sides of this candy box are 13 cm.



a. Area of both triangle ends _____ cm²

b. Area of the three rectangles _____ cm²

c. Surface area _____ cm²

Show your work.

3. **Ramp Wedge.** A wedge is a triangular prism 14 cm wide. Its ends are right triangles with sides 20, 21, and 29 cm. Find its surface area.

Show your work.

Answer_____ cm²

4. **Cheese Wedge.** A cheese wedge is a prism 6 cm thick. Its ends are right triangles with sides 5, 12, 13 cm. Find its surface area.

Hint *The 6 cm is one side of every rectangle.*

Show your work.

Answer_____ cm²

5. Nolan's Ends. A prism is 22 in long. Each end has base 14 in and height 24 in. Nolan says both ends cover 168 in². Is he right?

Hint *How many triangle ends does a prism have?*

Show your work.

Answer_____ in²

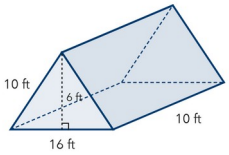
6. Roof Piece. A roof piece is a prism 25 ft long. Each end: base 36 ft, height 24 ft, two 30 ft sides. Find its SA.

Show your work.

Answer_____ ft²

7. Planter Wedge. Find the surface area of the planter.

Hint *Height for the triangles, sides for the rectangles.*



Show your work.

Answer_____ ft²

8. Camping Tent. A tent is a triangular prism 10 ft long. Each end: base 8 ft, height 3 ft, two 5 ft sides. The floor is 8 ft by 10 ft.

a. Area of the two ends _____ ft²

b. Total surface area _____ ft²

c. Fabric needed with no floor _____ ft²

Show your work.

FIND THE ERROR

explain the mistake, then fix it

9. Amara's Work. A prism is 10 cm long. Its ends are right triangles with sides 6, 8, 10 cm. Amara found the rectangles (240 cm²) and one end (24 cm²) and wrote "SA = 264 cm²." Explain and fix it.

_____

_____

_____

TEST PRACTICE

choose the best answer

10. How many rectangular faces does a triangular prism have?

A 2 **B** 3 **C** 5 **D** 6

11. Each rectangle in the net uses one triangle side times the –

A triangle's height

B prism's length

C triangle's area

D number of faces

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

3,264	1,400	336	1,120	124	800	168	240	204	456
N	R	A	T	E	Z	Q	I	L	G

#2c	#3	#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 #___