

PRACTICE: LESSON 9.3 – SURFACE AREA vs. VOLUME

Name: _____

Learning Goal: I can find the Lateral Surface Area (LSA), Total Surface Area (TSA), or Volume of a 3D shape.

Meta de Aprendizaje: Puedo encontrar el Área de Superficie Lateral (LSA), el Área de Superficie Total (TSA), y el Volumen.

Language Goal: I can read a problem and determine if the problem is asking to solve for surface area or volume, then I can write my justification.

Lenguaje Objetivo: Puedo leer un problema y decidir si el problema es un problema de volumen o área de superficie, luego escribir una justificación.

Directions: Are the following problems **VOLUME**, **LATERAL Surface Area**, or **TOTAL Surface Area** problems?

Circle the correct answer!

1. Chris wants to paint the walls of his bedroom. How much paint does he need?

Circle one: VOLUME or LATERAL Surface Area or TOTAL Surface Area

Why? _____

2. A water tank is shaped like a cylinder. How much water can the water tank hold?

Circle one: VOLUME or LATERAL Surface Area or TOTAL Surface Area

Why? _____

3. Juan bought a present for his mom. How much wrapping paper will he use to wrap the present?

Circle one: VOLUME or LATERAL Surface Area or TOTAL Surface Area

Why? _____

4. A soccer ball is filled up with air. How much air is needed to fill up the soccer ball?

Circle one: VOLUME or LATERAL Surface Area or TOTAL Surface Area

Why? _____

5. A piece of candy shaped like a triangular prism is completely covered in foil. How much foil does it take to completely cover the candy?

Circle one: VOLUME or LATERAL Surface Area or TOTAL Surface Area

Why? _____

6. A soup company wants to know how much paper it needs to create labels for their soup cans.

Circle one: VOLUME or LATERAL Surface Area or TOTAL Surface Area

Why? _____

7. A soup can is cylindrical. How many cubic inches of soup is inside the soup can?

Circle one: VOLUME or LATERAL Surface Area or TOTAL Surface Area

Why? _____

8. A soup can is made of metal. How much metal does it take to make the entire can?

Circle one: VOLUME or LATERAL Surface Area or TOTAL Surface Area

Why? _____

9. A tent is shaped like a triangular prism. How much material will you need to make the tent?
Circle one: VOLUME or LATERAL Surface Area or TOTAL Surface Area

Why? _____

10. Mr. Myers got ice cream in a cone. How much ice cream is inside his ice cream cone?
Circle one: VOLUME or LATERAL Surface Area or TOTAL Surface Area

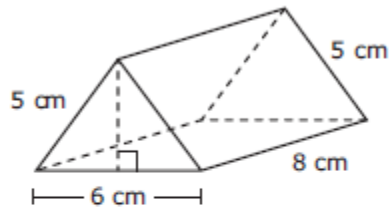
Why? _____

11. A water tank is shaped like a cylinder. All sides of the tank are metal. How much metal does it take to make the water tank?
Circle one: VOLUME or LATERAL Surface Area or TOTAL Surface Area

Why? _____

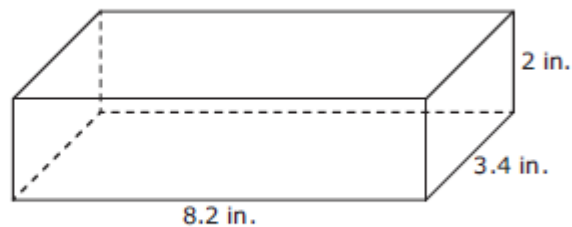
Directions: Read the question carefully to determine if the question is asking for Volume or Surface Area, then answer the question.

12. A triangular prism and its dimensions are shown in the diagram.



What is the lateral surface area of this triangular prism in square centimeters?

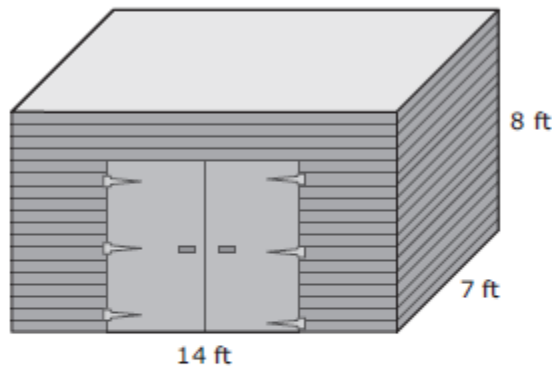
- F 192 cm^2
 - G 128 cm^2
 - H 152 cm^2
 - J 144 cm^2
13. A rectangular prism and its dimensions are shown in the diagram.



What is the total surface area of this rectangular prism in square inches?

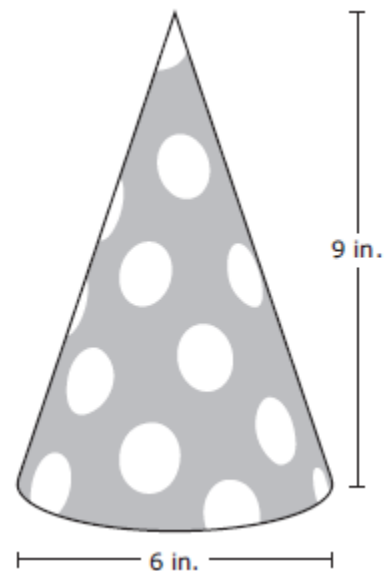
Answer: _____

14. A ball shaped like a sphere has a radius of 2.7 centimeters. Which measurement is closest to the volume of the ball in cubic centimeters?
- A 46.38 cm^3
 B 33.93 cm^3
 C 122.15 cm^3
 D 82.45 cm^3
15. Mr. Suárez wants to paint his storage shed. He needs to calculate the lateral surface area of the shed so that he will know how much paint to buy. The shed is in the shape of a rectangular prism with the dimensions shown below.



Including the doors, what is the lateral surface area of the storage shed in square feet?

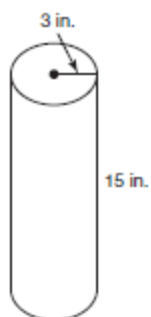
- A 784 ft^2
 B 266 ft^2
 C 532 ft^2
 D 336 ft^2
16. A party hat is shaped like a cone. The dimensions of the party hat are shown in the diagram.



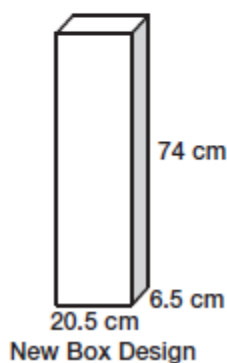
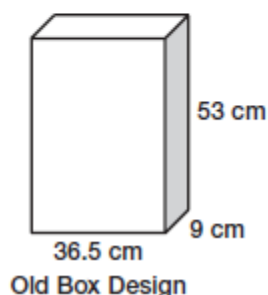
Which measurement is closest to the volume of the party hat in cubic inches?

- A 84.82 in.^3
 B 339.29 in.^3
 C 254.47 in.^3
 D 1,017.88 in.^3

17. Chantel bought a cylindrical vase to give as a gift to a friend. She is going to wrap the vase using festive wrapping paper. Determine the amount of wrapping paper Chantel will need to wrap the vase.



18. A cereal manufacturer is designing a new cereal box to try and cut costs. They felt their old design used too much cardboard to build. They believe their new design, being taller and thinner will use less cardboard. Determine which cereal box design will use less cardboard to build.



19. Amit is making blocks for his nephew. He carves the blocks out of wood and then paints them orange. How much paint will he need to paint this block?

