

Independent Practice: **FINDING UNKNOWNNS GIVEN SURFACE AREA & VOLUME**

NAME: _____

DATE: _____

PERIOD: _____

For # 1 – 10, use the appropriate formula to determine the unknown lengths given surface area and / or volume of each figure described.

1. $h =$ _____

A rectangular prism has a surface area of 158 square centimeters. If the length is 6 centimeters and width of 4 centimeters, how tall is the prism?

2. $h =$ _____

A rectangular prism has a volume of 87.5 cubic meters. If the width is 2.5 meters and the length is 5 meters what is the height of the rectangular prism?

3. $h =$ _____

A triangular prism has a volume of 81 cubic inches. If both the base length and the base height is 6, how tall is the prism?

4. $s =$ _____

A cube has a surface area of 216 square centimeters and a volume of 216 cubic centimeters. What is the side length of the cube?

5. $l =$ _____

A cone has a lateral area of $80\pi \text{ in}^2$ and a radius of 8 in. Find its slant height.

6. $r =$ _____

A cone has a volume of $225\pi \text{ cm}^3$ and a height of 15 cm.
Find its radius.

7. $r =$ _____

The surface area of a sphere is 81π square units. Find its radius

8. $S(\text{lateral}) =$ _____

The volume of a cylinder is $63\pi \text{ in}^3$ and its radius is 3 in.
Find its lateral surface area.

9. $x =$ _____

The area of the base of a prism is $6x$ square inches, and the height of the prism is $3.5x$ inches. If the prism has a volume of 3,024 cubic inches, what is the value of 'x'?

10. $S(\text{Lateral}) =$

The volume of a cone is 12π cubic units.
Its height is 4 units. Find its lateral and total surface area.

$S(\text{Total}) =$
