

7 Chapter Review

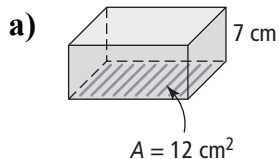
Key Words

For #1 to #4, write the number that matches the description.

- height _____ the amount of space an object occupies
- volume _____ the position or view of an object
- base of a prism _____ the distance between the 2 faces that name the object
- orientation _____ the face that helps name the object; could be the face the shape rests on

7.1 Understanding Volume, pages 360–366

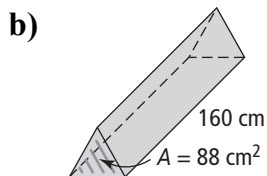
5. What is the volume of each right prism or cylinder?



Volume = area of base \times _____

$$V = \text{_____} \times \text{_____}$$

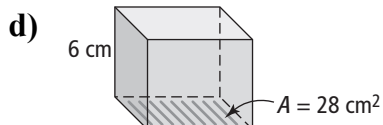
$$V = \text{_____}$$



Volume = _____ \times _____

$$V = \text{_____} \times \text{_____}$$

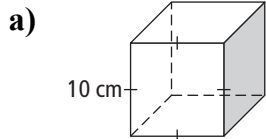
$$V = \text{_____}$$



7.2 Volume of a Prism, pages 368–376

6. What is the volume of each object?

Volume of rectangular prism: $V = l \times w \times h$
 Volume of triangular prism: $V = (b \times h \div 2) \times l$
 Volume of a cube: $V = s^3$ or $V = s \times s \times s$

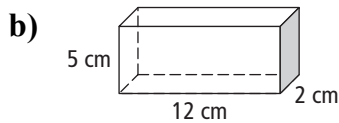


Formula → _____

Substitute → $V = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} \times \underline{\hspace{2cm}}$

Solve → $V = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}}$

$V = \underline{\hspace{2cm}} \text{ cm}^3$

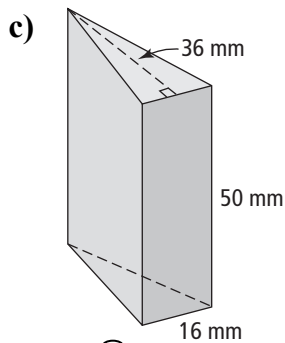


Formula → _____

Substitute → $V = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} \times \underline{\hspace{2cm}}$

Solve → $V = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}}$

$V = \underline{\hspace{2cm}}$



Formula → _____

Substitute → $V = (\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} \div 2) \times \underline{\hspace{2cm}}$

Solve → $V = (\underline{\hspace{2cm}} \div 2) \times \underline{\hspace{2cm}}$

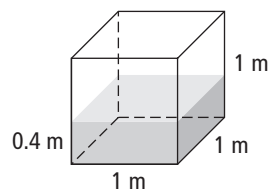
$V = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}}$

$V = \underline{\hspace{2cm}}$

The base of a triangular prism is the triangular face.

Name: _____ Date: _____

7. a) A tank measures 1 m by 1 m by 1 m.
The water level in the tank is 0.4 m high.
How much water is in the tank?



height of water = _____

length = _____

width = _____

Formula →

Substitute → $V =$ _____ \times _____ \times _____

Solve →

Sentence: _____

- b) How much empty space is in the tank?

height of tank = _____

length of tank = _____

width of tank = _____

Volume of tank = _____ \times _____ \times _____

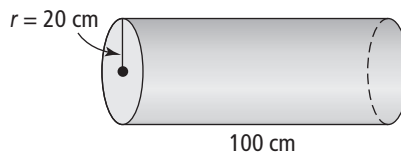
Volume of empty space = volume of tank – volume of water

Sentence: _____

7.3 Volume of a Cylinder, pages 378–384

8. What is the volume of each cylinder?

a) Formula $\rightarrow V = \pi \times r^2 \times h$
 $V = \pi \times r \times r \times h$

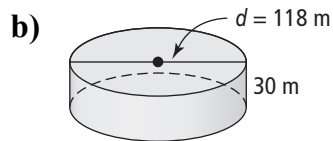


Substitute $\rightarrow V = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} \times \underline{\hspace{2cm}}$

Solve $\rightarrow V = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} \times \underline{\hspace{2cm}}$

$V = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}}$

$V = \underline{\hspace{2cm}} \text{ cm}^3$



$r = d \div 2$

$d = \underline{\hspace{2cm}}$

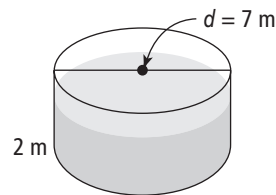
$r = \underline{\hspace{2cm}}$

Formula \rightarrow

Substitute \rightarrow

Solve \rightarrow

9. Jane wants to fill her pool so the water reaches 2 m. Find the volume of water she will need.

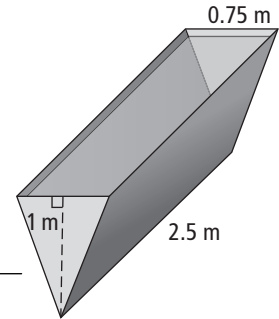


Sentence: _____

7.4 Solving Problems Involving Prisms and Cylinders, pages 386–396

10. At Wacky Water Park, this large bucket tips over when it fills with water.

a) What is the volume of water when the bucket is full?



Volume = area of base \times _____

$$V = (\text{_____} \times \text{_____} \div 2) \times \text{_____}$$

$$V = (\text{_____} \div 2) \times \text{_____}$$

$$V = \text{_____} \times \text{_____}$$

$$V = \text{_____}$$

b) If the bucket fills every minute, how much water is dumped after 15 min?

Amount of water dumped in 15 min = number of times bucket is filled in 15 min \times volume

$$= \text{_____} \times \text{_____}$$

$$= \text{_____}$$

Sentence: _____

11. An old cylinder has a volume of 87.92 m^3 .

A new cylinder has the same volume and a radius of 4 m.

What height is the new cylinder?

$$V = \pi \times r^2 \times h$$

$$V = \pi \times r \times r \times h$$

$$87.92 = 3.14 \times \text{_____} \times \text{_____} \times h$$

$$87.92 = \text{_____} \times \text{_____} \times h$$

$$87.92 = \text{_____} \times h$$

$$\frac{87.92}{\boxed{}} = \frac{\boxed{}}{\boxed{}} \times h$$

Divide both sides by the number in front of h .

$$h = \text{_____ cm}$$