NAME _____ DATE _____ PERIOD ____

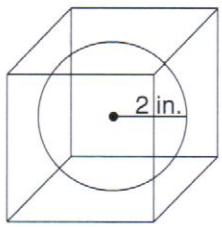
7-5 Scientific Calculator Activity

Volume

Suppose you buy a baseball packed in a cubical box. What percent of the volume of the box is air space (the space around the ball)? The answer is about 30%!

Example **A ball is packed inside a cube so that the ball touches the sides of the cube. Find the volume of the air space around the ball.**

Find the volume of the cube. The side length of the cube is 4 inches. The formula is $V = s^3$. Use the $\wedge$ key.



Enter: 4 $\wedge$ 3 ENTER 64

The volume of the cube is 64 in^3.

Find the volume of the ball. The radius is 2 inches.

The formula is $V = \frac{4}{3}\pi r^3$.

Enter: 4 $\div$ 3 $\times$ π $\times$ 2 $\wedge$ 3 ENTER 33.50132164

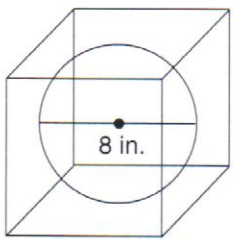
The volume of the ball is about 33.5 in^3.

The air takes up a volume of about (64 − 33.5) in^3 or 30.5 in^3.

Exercises

Find the volume of the air space in each container below to the nearest tenth.

1.



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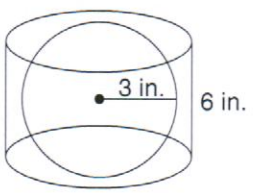

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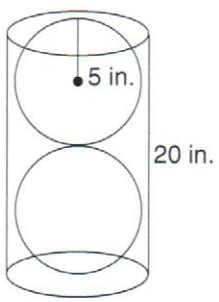
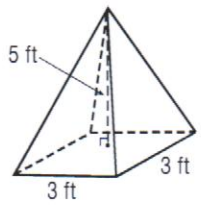


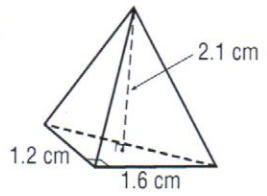
NAME _____ DATE _____ PERIOD _____

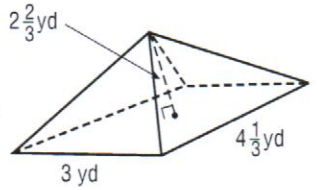
7-6 Practice

Volume of Pyramids, Cones, and Spheres

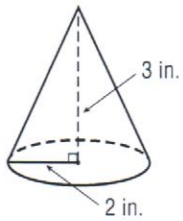
Find the volume of each pyramid. Round to the nearest tenth if necessary.

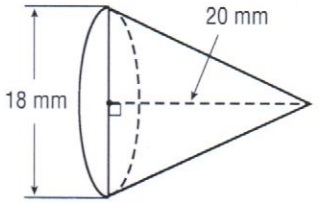
1. 

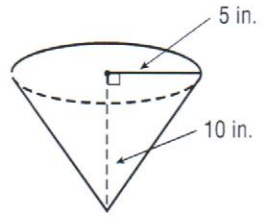
2. 

3. 

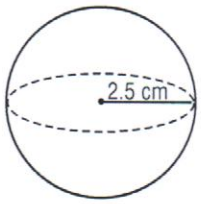
Find the volume of each cone. Round to the nearest tenth if necessary.

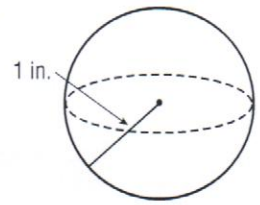
4. 

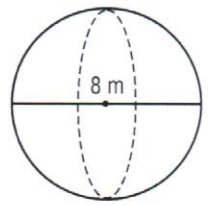
5. 

6. 

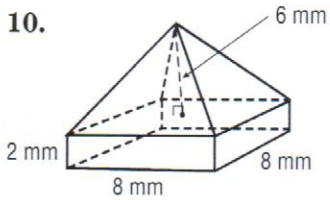
Find the volume of each sphere. Round to the nearest tenth if necessary.

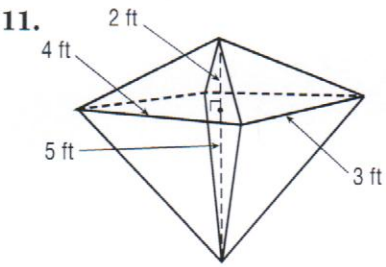
7. 

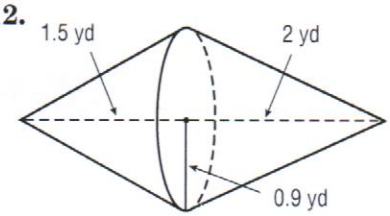
8. 

9. 

Find the volume of each solid. Round to the nearest tenth if necessary.

10. 

11. 

12. 

13. **PYRAMIDS** The Great Pyramid has an astounding volume of about 84,375,000 cubic feet above ground. At ground level the area of the base is about 562,500 square feet. What is the approximate height of the Great Pyramid?

14. **VOLUME** About how much more volume does a sphere with a radius of 4 inches have than a cone with a radius of 4 inches and a height 4 inches? Round to the nearest whole cubic inch.