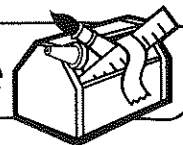


PROJECT
9**Building a Solid Figure to Find Volume**

For Problems 1–3, do the following:

- Use centimeter cubes to build each rectangular prism.
- Find the volume of each rectangular prism.
- Find the volume of the solid figure formed by the two rectangular prisms.

1.

	Length <i>l</i>	Width <i>w</i>	Height <i>h</i>	Volume V (cubic units)
Rectangular Prism A	1	2	3	
Rectangular Prism B	2	3	4	
Solid Figure Formed by Prisms A and B				

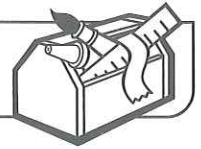
2.

	Length <i>l</i>	Width <i>w</i>	Height <i>h</i>	Volume V (cubic units)
Rectangular Prism C	5	3	2	
Rectangular Prism D	2	3	5	
Solid Figure Formed by Prisms C and D				

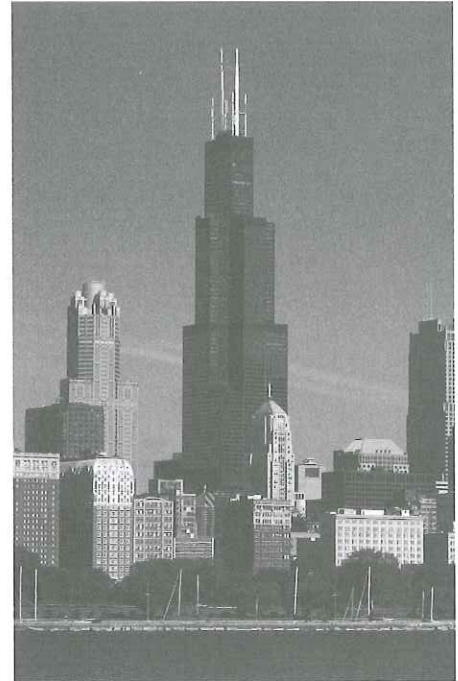
3.

	Length <i>l</i>	Width <i>w</i>	Height <i>h</i>	Volume V (cubic units)
Rectangular Prism E	12	3	1	
Rectangular Prism F	3	3	3	
Solid Figure Formed by Prisms E and F				

- 4.** Explain how to find the volume of a solid figure made from two rectangular prisms, one with dimensions 3 cm by 4 cm by 5 cm and one with dimensions 2 cm by 5 cm by 4 cm.

**PROJECT
9****Finding the Volume of Willis Tower**

At 1,450 feet tall, Willis Tower in Chicago is the tallest building in the United States. It is composed of nine rectangular prisms known as “tubes.” The tubes are built in a 3-by-3 arrangement. Although the tubes are of various heights, each one has a square base that measures 75 feet on a side.



Willis Tower

1. What is the area of the base of each tube?

_____ ft^2

The table below shows the approximate heights of the tubes. Only two of them reach all the way to the top.

2. What formula could you use to find the volume

of one tube? _____

3. Complete the table to find the volume of one tube at each given height. Then find the total volume of the tubes for each height.

Approximate Height of Tube	Number of Tubes at this Height	Volume of One Tube at this Height (ft^3)	Total Volume of Tubes at this Height (ft^3)
646 ft	3		
672 ft	2		
1,200 ft	2		
1,450 ft	2		

4. Describe what you will do to find the total approximate volume of Willis Tower.

5. The total volume of Willis Tower is about _____ ft^3 .