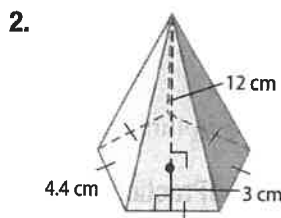
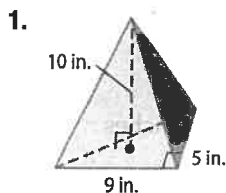


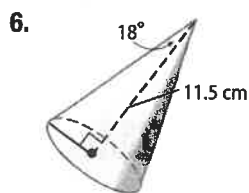
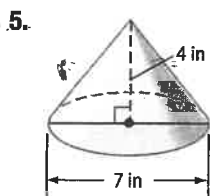
**Example 1** Find the volume of each pyramid.



3. a rectangular pyramid with a height of 5.2 meters and a base 8 meters by 4.5 meters

4. a square pyramid with a height of 14 meters and a base with 8-meter side lengths

**Example 2** Find the volume of each cone. Round to the nearest tenth.



7. an oblique cone with a height of 10.5 millimeters and a radius of 1.6 millimeters

8. a cone with a slant height of 25 meters and a radius of 15 meters

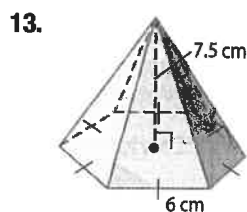
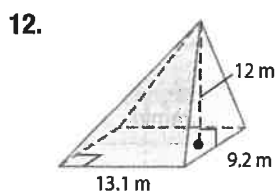
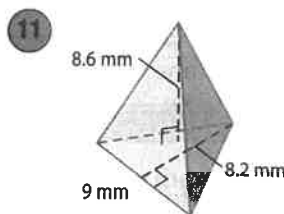
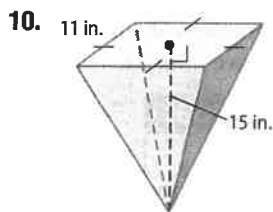
**Example 3**

9. **MUSEUMS** The sky dome of the National Corvette Museum in Bowling Green, Kentucky, is a conical building. If the height is 100 feet and the area of the base is about 15,400 square feet, find the volume of air that the heating and cooling systems would have to accommodate. Round to the nearest tenth.

Practice and Problem Solving

Extra Practice is on page R12.

**Example 1** **CCSS SENSE-MAKING** Find the volume of each pyramid. Round to the nearest tenth if necessary.



14. a pentagonal pyramid with a base area of 590 square feet and an altitude of 7 feet

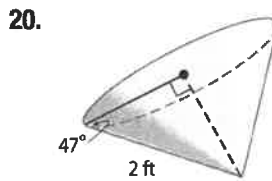
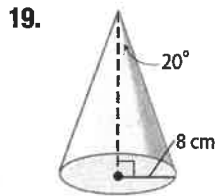
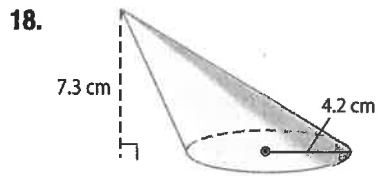
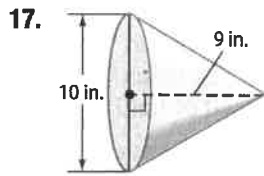
15. a triangular pyramid with a height of 4.8 centimeters and a right triangle base with a leg 5 centimeters and hypotenuse 10.2 centimeters

16. A triangular pyramid with a right triangle base with a leg 8 centimeters and hypotenuse 10 centimeters has a volume of 144 cubic centimeters. Find the height.



**Example 2**

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



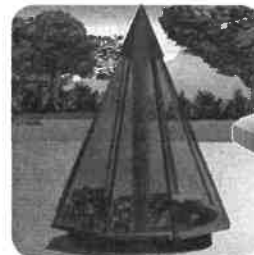
21. an oblique cone with a diameter of 16 inches and an altitude of 16 inches
22. a right cone with a slant height of 5.6 centimeters and a radius of 1 centimeter

**Example 3**

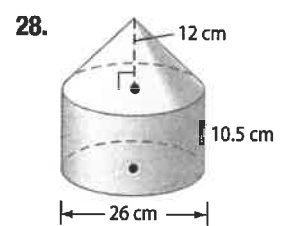
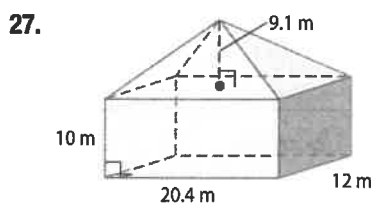
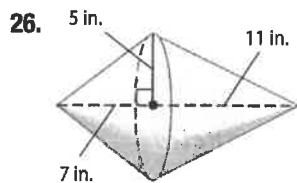
**23. SNACKS** Approximately how many cubic centimeters of roasted peanuts will completely fill a paper cone that is 14 centimeters high and has a base diameter of 8 centimeters? Round to the nearest tenth.

**24. CCSS MODELING** The Pyramid Arena in Memphis, Tennessee, is the third largest pyramid in the world. It is approximately 350 feet tall, and its square base is 600 feet wide. Find the volume of this pyramid.

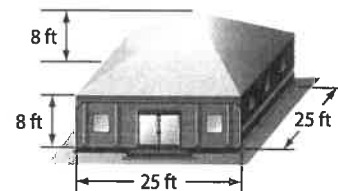
**25. GARDENING** The greenhouse at the right is a regular octagonal pyramid with a height of 5 feet. The base has side lengths of 2 feet. What is the volume of the greenhouse?



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



**29. HEATING** Sam is building an art studio in her backyard. To buy a heating unit for the space, she needs to determine the BTUs (British Thermal Units) required to heat the building. For new construction with good insulation, there should be 2 BTUs per cubic foot. What size unit does Sam need to purchase?



**30. SCIENCE** Refer to page 873. Determine the volume of the model. Explain why knowing the volume is helpful in this situation.