Name: _____

8.REV.1 ~ END OF CHAPTER REVIEW

Past due on: _____ Period: _____
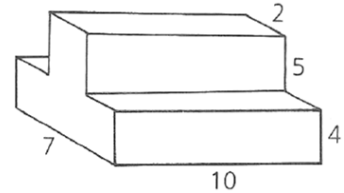
1. A rectangular cake pan has a base 10 centimeters by 12 centimeters and a height of 8 centimeters. If 810 cubic centimeters of batter is poured into the pan, how far up the side will the batter come?
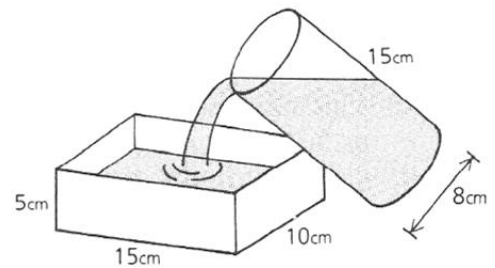
2. Consider the right prism shown with the dimensions given in inches. Find its volume. Use the left face as a representative cross section.

3. Find the volume of cement needed to form the concrete pedestal shown.
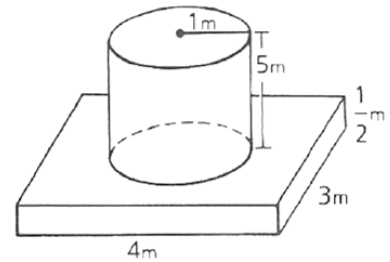
4. The cylindrical glass is full of water, which is poured into the rectangular pan. Will the pan overflow? Explain your reasoning.

5. A cistern is to be built of cement. The walls and the bottom will be 1 foot thick. The outer height will be 20 feet. The inner diameter will be 10 feet. To the nearest cubic foot, how much cement will be needed for the job?
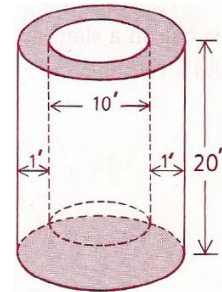
6. Jim's lunch box is the shape of a half cylinder on a rectangular box. To the nearest whole unit, what is (a) the total volume it contains? (b) The total surface area of sheet metal needed to manufacture it?
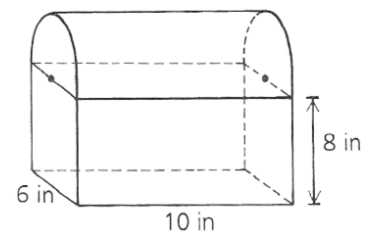
7. A tower has a <u>total</u> height of 24 meters. The height of the wall is 20 meters (as shown). The base is a rectangle with an area of 25 square meters. Find the total volume of the tower to the nearest cubic meter.
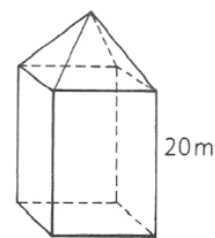

8. A well has a cylindrical wall 50 meters deep and a diameter of 6 meters. The tapered bottom forms a cone with a slant height of 5 meters. Find, to the nearest cubic meter, the volume of water the well can hold.
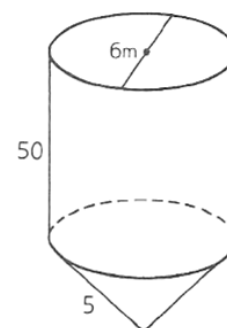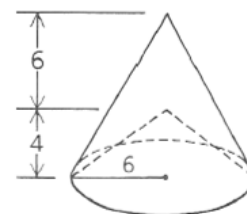

9. Find, to the nearest tenth, the volume of a cone with a 60° vertex angle and a slant height of 12 inches.
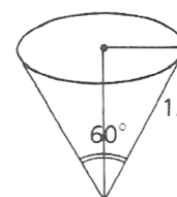

10. A pyramid has a square base with a diagonal of 10 yards. Each lateral edge measures 13 yards. Find the volume of the pyramid.
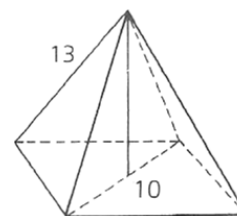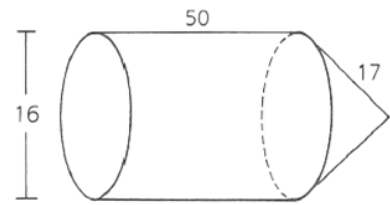

11. Consider the solid shown with dimensions given in inches. Find the volume remaining if the smaller cone is removed from the larger cone.


12. A gazebo has a pentagonal base with an area of 60 square meters. The total height to the peak is 16 meters. The height of the gazebo's pyramidal roof is 6 meters. Find the gazebo's total volume.

*Chapter 8: Three-Dimensional Figures*
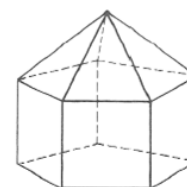
13. A rocket has the dimensions, in yards, shown. If 60% of the space in the rocket is needed for fuel, what is the volume, to the nearest whole unit, of the portion of the rocket that is available for nonfuel items?

14. Consider the solid shown with dimensions given in feet. Use the diagram to find:
    a. The value of x
    b. The radii of the circles
    c. The volume of the smaller cone
    d. The volume of the larger cone
   e. The volume of the frustum
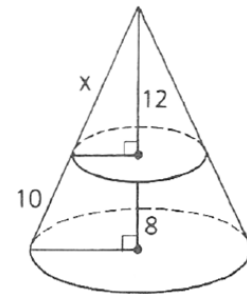
15. Find the volume of the grain silo to the nearest cubic meter.
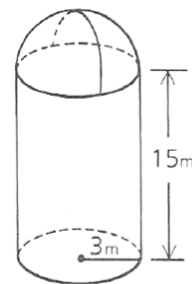
16. A plastic bowl is in the shape of a cylinder with a hemisphere cut out of it. The dimensions, in inches, are shown. What volume of plastic is needed to make the bowl?

Chapter 8: Three-Dimensional Figures
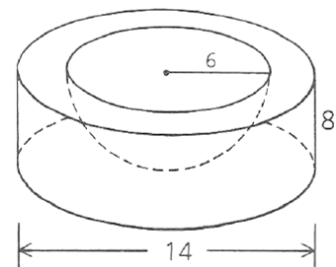
17. The solid shown is formed by a cone and a hemisphere with the dimension given in inches.
    a. What is the total volume of the solid?
    b. What is the total surface area of the solid?
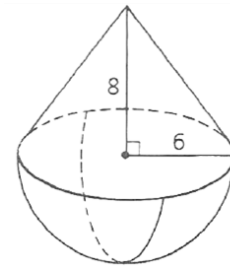
18. A hemispherical dome has a height of 30 meters.
    a. Find, to the nearest cubic meter, the total volume enclosed.
    b. Find, to the nearest square meter, the area of ground covered by the dome (the shaded area).
    c. How much more paint is needed to paint the dome than to paint the floor?
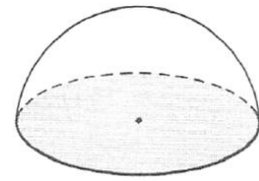
19. A cold capsule is 11 millimeters long and 3 millimeters in diameter. Find the volume of medicine it contains.
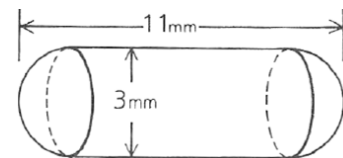
20. A mini-submarine has the dimensions shown.
    a. What is the sub's total volume?
    b. Knowing the sub's surface area is important in determining how much pressure it will withstand. What is the sub's total surface area?

Chapter 8: Three-Dimensional Figures