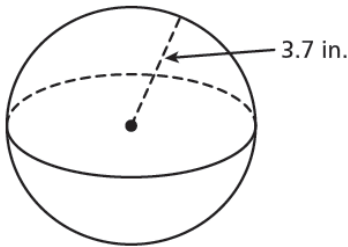


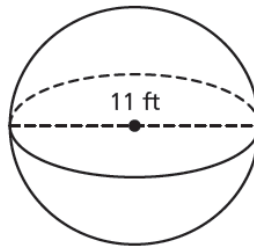
4.5 – Volume of a Sphere

Find the volume of each sphere or hemisphere. Express your answer in terms of π and then round your answer to the nearest hundredth, if necessary.

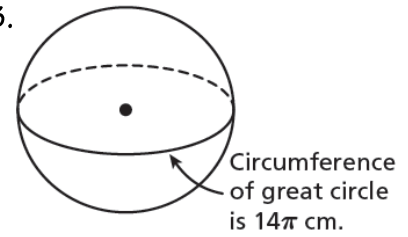
1.



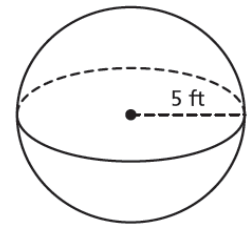
2.



3.

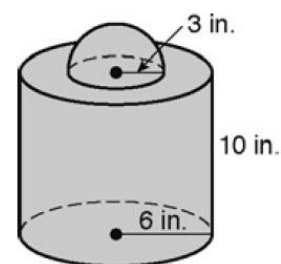


4. One gallon of propane yields approximately 91,500 BTU. About how many BTUs does the spherical storage tank at the right provide? Round to the nearest whole BTUs. (Hint: $1 \text{ ft}^3 = 7.48 \text{ gal}$)

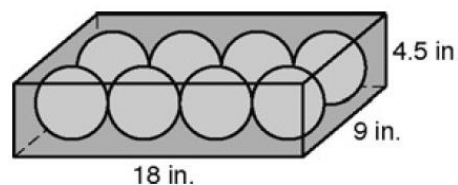


5. A globe has a volume of $288\pi \text{ in}^3$. What is the radius of the globe?
6. What is the volume of a sphere with a great circle that has an area of $225\pi \text{ cm}^2$?

7. Find the volume of the composite figure shown. Express your answer in terms of π and then round it to the nearest hundredth.

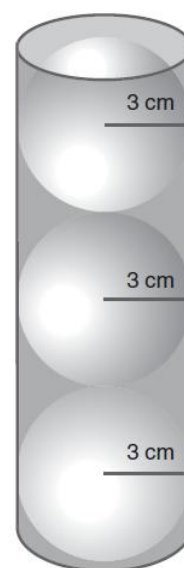


8. Eight bocce balls are in a box 18 inches long, 9 inches wide, and 4.5 inches deep. Each ball has a diameter of 4.5 inches.
- What is the volume of a single bocce ball?



- What is the total volume all 8 bocce balls take up?
- What is the volume of the box?
- What is the volume of the box not taken up by the bocce balls?

9. A can holds 3 tennis balls as shown in the figure. The radius of each tennis ball is 3 centimeters.



- What is the volume of a single tennis ball?
- What is the total volume all 3 tennis balls take up?
- Can you determine the height of the can? Explain your reasoning.
- What is the volume of the can? Round your answer to the nearest hundredth.
- What is the volume of the can not taken up by the tennis balls?