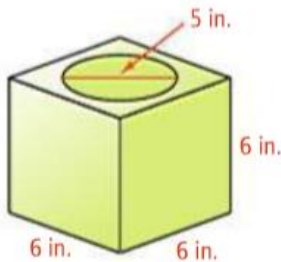
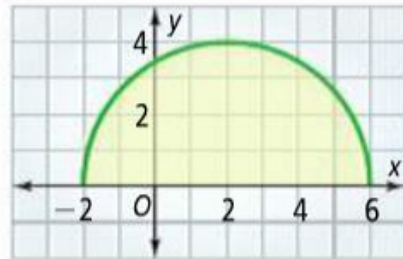


1. There are 750 toothpicks in a regular-sized box. If a jumbo box is made by doubling all the dimensions of the regular-sized box, how many toothpicks will the jumbo box hold?
2. A cylinder with a 4-in diameter and a 6-in height holds 1 lb of oatmeal. To the nearest ounce, how much oatmeal will a similar 10-in high cylinder hold?
3. A clown's face on a balloon is 4 in tall when the balloon holds 108 in^3 of air. How much air must the balloon hold for the face to be 8 in tall?
4. A cylinder has been cut out of the solid. Find the volume of the remaining solid. Round your answer to the nearest tenth.



5. The region enclosed by the semicircle shown is revolved completely about the x-axis.
 - a. Describe the solid of revolution that is formed.
 - b. Find its volume in terms of π .



6. What is the volume of a cone that has an area of 214 ft^2 and height of 21 ft?
7. What is the volume of a cylinder that has a circumference of 189 in and height of 5 in?
8. A child has an ice cream cone with a spherical scoop of ice cream on the top, but the cone is empty. The cone has a diameter of 5 cm and is 7 cm deep. If the ice cream all melts, will it all fit inside the cone or will the cone overflow? Explain.

9. A manufacturer is shipping a spherical globe that fits exactly in a box shaped like a cube. The globe is touching all six sides of the box. If the volume of the box is 343 in^3 , what is the volume of the globe?

10. A storage tank has a circumference of 175 meters. What is the area of the base of the tank?

11. A honey farmer has two options for plastic honey jars: a cylindrical one with a radius of 2.5 cm and height of 7 cm, and a square prism with a base length of 4.5 cm per side and a height of 6.5 cm. For shipping, the jars will be placed into a box that measures 25 cm by 25 cm by 41 cm. Find the volume of both jar shapes. If it is more economical to ship a larger volume of honey per box, which jar model should the farmer choose?