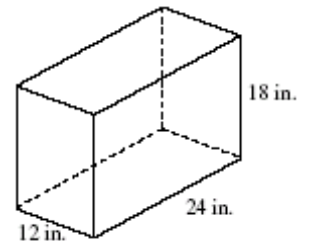


3. Tamika has a hard rubber ball whose circumference measures 13 inches. She wants to box it for a gift but can only find cube-shaped boxes of sides 3 inches, 4 inches, 5 inches, or 6 inches. What is the *smallest* box that the ball will fit into with the top on?

4. The figure below shows an aquarium that is shaped like a rectangular prism.

- a. What is the volume, in cubic inches, of the aquarium?



- b. One gallon is equal to 231 cubic inches. How many gallons of water will the aquarium hold?

- c. If 10 gallons of water were poured into the empty aquarium, what would be the depth, in inches, of the water? Show your work or explain how you got your answer.

5. Calculate the shaded areas in the two figures below. Make sure your work clearly shows your thinking.

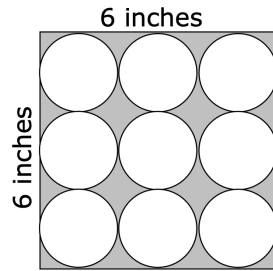


Figure A

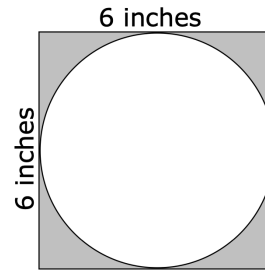
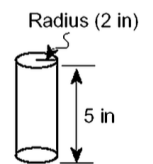
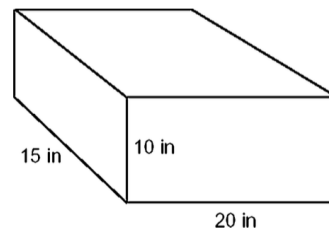


Figure B

Which figure has the greatest amount of shaded area?

6. A rectangular container with the dimensions 10 inches by 15 inches by 20 inches needs to be filled with water. The water is poured into the container using a cylindrical can with a radius of 2 inches and a height of 5 inches. What is the maximum number of full cans of water that can be put into the container without the container overflowing?



7. Suppose a sugar cone is 10 centimeters tall and has a diameter of 4 centimeters. A spherical scoop of ice cream with a diameter of 4 centimeters rests on the top of the cone. If all the ice cream melts into the cone, will the cone overflow? Explain.

8. The Mars Cereal Company has two different cereal boxes for Mars Cereal. The large box is 8 inches wide, 11 inches high, and 3 inches deep. The small box is 6 inches wide, 10 inches high, and 2.5 inches deep.

a. How much more cardboard is needed to make the large box than the small box?

b. How much more cereal does the large box hold than the small box?