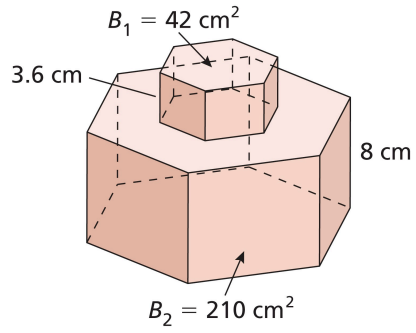


MA 202: Volume Problems

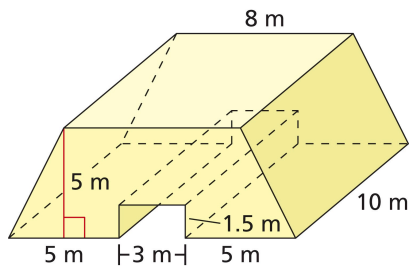
Tuesday 02/27/2018

1. Finding volume of the following solids.

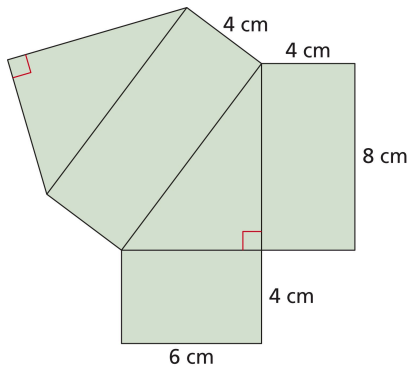
(a)



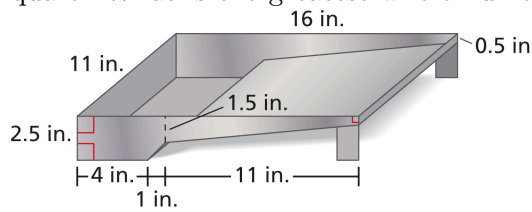
(b)



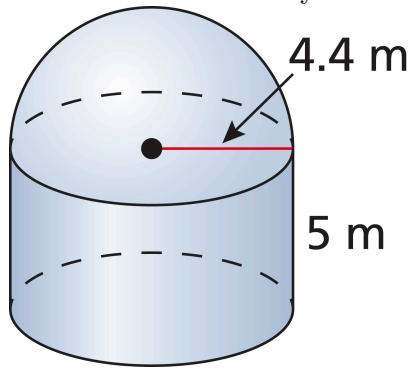
2. Use the net to sketch the polyhedron. Then find the volume.



3. The dimensions of a paint tray are shown. A volume of 57.75 cubic inches is equal to one quart. What is the greatest whole number of quarts of paint that the paint tray can hold?



4. The solid contains a cylinder and a hemisphere. Find the volume of the composite solid.



5. Four tennis balls are packed in a cylindrical container that has a diameter of 2.6 inches and a height of 10.4 inches.
- The diameter of each tennis ball is 2.6 inches. Find the volume of a tennis ball.
 - What percent of the space in the can is not occupied by the tennis balls?
6. One way to find the volume of a solid object is to use water displacement. Suppose you place a rock into a tank of water that is 24 inches long and 12 inches wide. The water level rises 1.25 inches. What is the volume (in cubic inches) of the rock?
7. You hit a target with a softball to dunk a man in a cylindrical dunking booth of diameter 44 inches. The man's floating body makes the water level in the tank rise 3.4 inches. One cubic foot of water weighs 62.2 pounds. What is the man's weight?
8. Suppose a company is manufacturing juice boxes that are rectangular prisms with dimensions 4 inches by 3 inches by 4 inches. The company has a warehouse whose dimensions are 40 feet by 30 feet by 20 feet. If the company makes 200,000 juice boxes, will it be able to store all the juice boxes in the warehouse?
9. Explain how to change the side lengths of the base of a square pyramid so that the volume of the square pyramid doubles.
10. Your friend bets that she can fit 1,000 gumballs in her spherical gumball container with radius 5 inches. Each gumball has a radius of 0.5 inches. Do you take the bet?