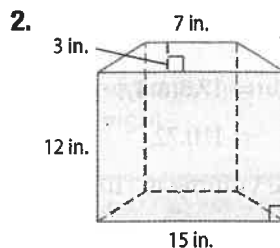
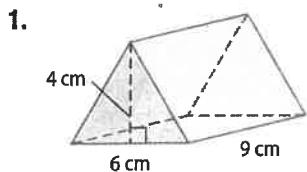


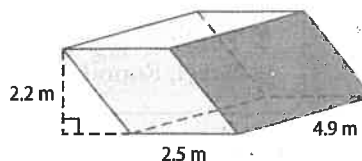


Examples Find the volume of each prism.

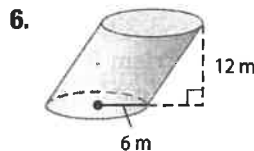
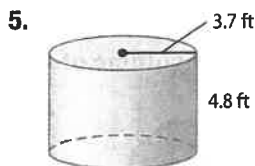
1 and 3



- 3. the oblique rectangular prism shown at the right
- 4. an oblique pentagonal prism with a base area of 42 square centimeters and a height of 5.2 centimeters



Examples 2–3 Find the volume of each cylinder. Round to the nearest tenth.



- 7. a cylinder with a diameter of 16 centimeters and a height of 5.1 centimeters
- 8. a cylinder with a radius of 4.2 inches and a height of 7.4 inches

Example 4 9. **MULTIPLE CHOICE** A rectangular lap pool measures 80 feet long by 20 feet wide. If it needs to be filled to four feet deep and each cubic foot holds 7.5 gallons, how many gallons will it take to fill the lap pool?

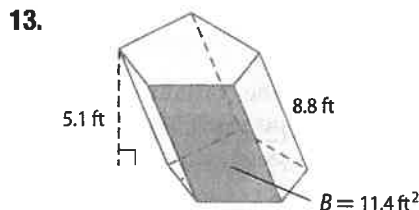
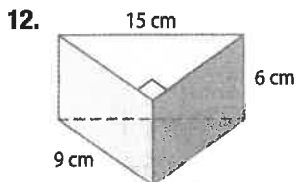
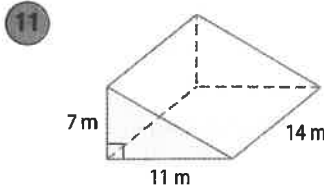
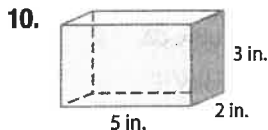
- A 4000 B 6400 C 30,000 D 48,000

Practice and Problem Solving

Extra Practice is on page R12.

Examples **CCSS** **SENSE-MAKING** Find the volume of each prism.

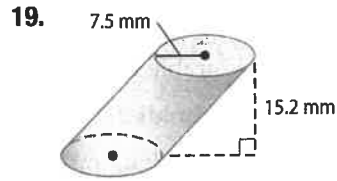
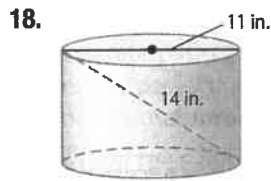
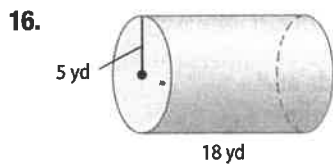
1 and 3



- 14. an oblique hexagonal prism with a height of 15 centimeters and with a base area of 136 square centimeters
- 15. a square prism with a base edge of 9.5 inches and a height of 17 inches

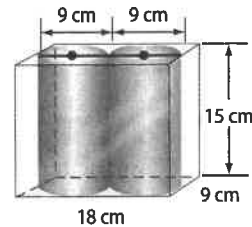


Examples 2–3 **CCSS** SENSE-MAKING Find the volume of each cylinder. Round to the nearest tenth.



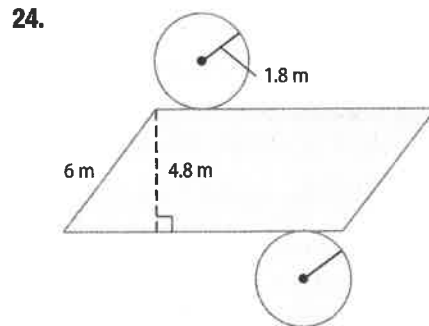
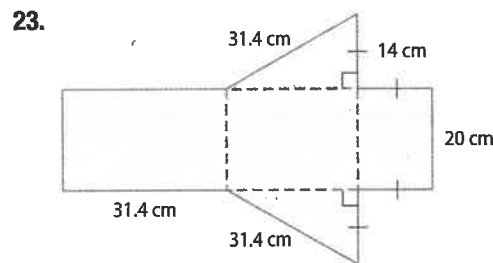
Example 4 20. **PLANTER** A planter is in the shape of a rectangular prism 18 inches long, $14\frac{1}{2}$ inches deep, and 12 inches high. What is the volume of potting soil in the planter if the planter is filled to $1\frac{1}{2}$ inches below the top?

21. **SHIPPING** A box 18 centimeters by 9 centimeters by 15 centimeters is being used to ship two cylindrical candles. Each candle has a diameter of 9 centimeters and a height of 15 centimeters, as shown at the right. What is the volume of the empty space in the box?



22. **SANDCASTLES** In a sandcastle competition, contestants are allowed to use only water, shovels, and 10 cubic feet of sand. To transport the correct amount of sand, they want to create cylinders that are 2 feet tall to hold enough sand for one contestant. What should the diameter of the cylinders be?

Find the volume of the solid formed by each net.



25. **FOOD** A cylindrical can of baked potato chips has a height of 27 centimeters and a radius of 4 centimeters. A new can is advertised as being 30% larger than the regular can. If both cans have the same radius, what is the height of the larger can?



26. **CHANGING DIMENSIONS** A cylinder has a radius of 5 centimeters and a height of 8 centimeters. Describe how each change affects the volume of the cylinder.

- The height is tripled.
- The radius is tripled.
- Both the radius and the height are tripled.
- The dimensions are exchanged.

