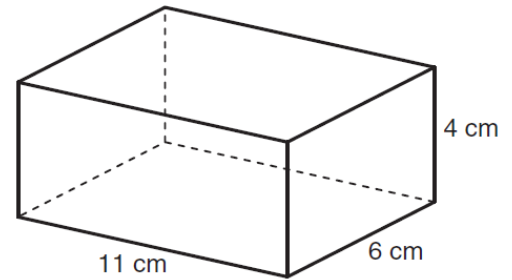
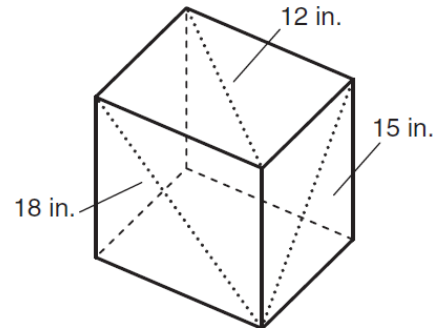


4.8 – Diagonals in Three Dimensions

1. What is the length of a three-dimensional diagonal of the rectangular prism shown?



2. What is the length of a three-dimensional diagonal of the rectangular prism shown?

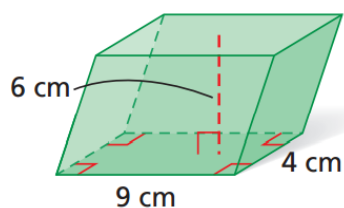


3. A rectangular box has a length of 6 feet and a width of 2 feet. The length of a three-dimensional diagonal of the box is 7 feet. What is the height of the box?

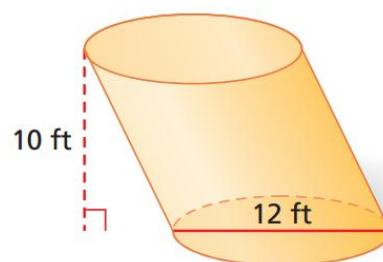
4. Pablo is packing for a business trip. He is almost finished packing when he realizes that he forgot to pack his umbrella. Before Pablo takes the time to repack his suitcase, he wants to know if the umbrella will fit in the suitcase. His suitcase is in the shape of a rectangular prism and has a length of 2 feet, a width of 1.5 feet, and a height of 0.75 foot. The umbrella is 30 inches long. Will the umbrella fit in Pablo's suitcase? Explain your reasoning.

REVIEW ~ Find the volume of the solid shown. If necessary, round your answer to the nearest hundredth. Label accordingly.

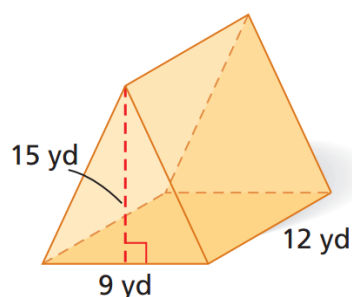
5. Oblique rectangular prism



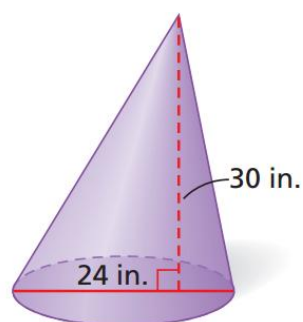
6. Oblique cylinder



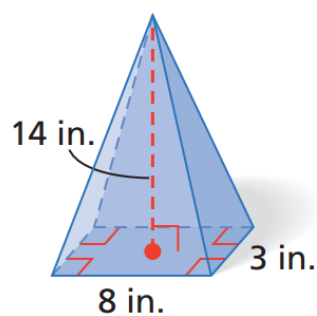
7. Triangular prism



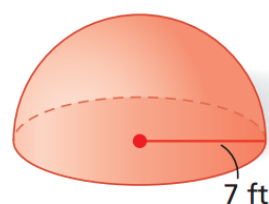
8. Oblique cone



9. Rectangular pyramid



10. Hemisphere



11. A cylindrical juice container with a 3 inch diameter has a hole for a straw that is 1 inch from the side. Up to 5 inches of a straw can be inserted.

- Find the height of the container. Round your answer to the nearest tenth.
- Find the volume of the container. Round your answer to the nearest hundredth.
- How many ounces does the juice container hold? ($1 \text{ in.}^3 \approx 0.55 \text{ oz.}$)

