

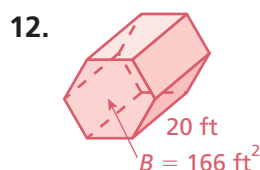
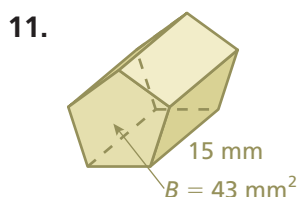
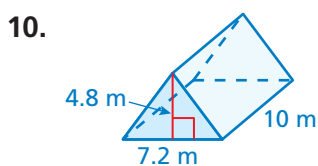
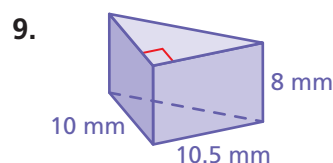
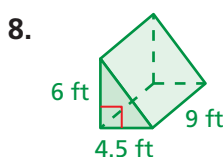
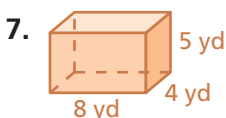
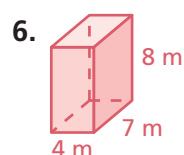
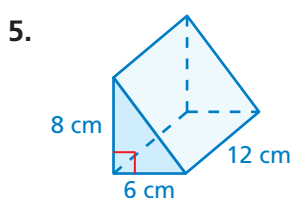
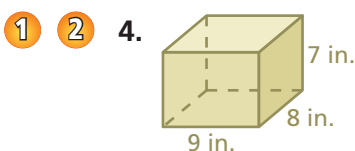
7.1 Exercises

Vocabulary and Concept Check

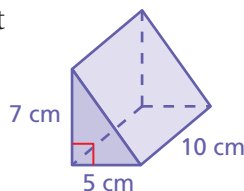
- VOCABULARY** What type of units are used to describe volume?
- CRITICAL THINKING** What is the difference between volume and surface area?
- CRITICAL THINKING** You are ordering packaging for a product. Should you be more concerned with volume or surface area? Explain.

Practice and Problem Solving

Find the volume of the prism.

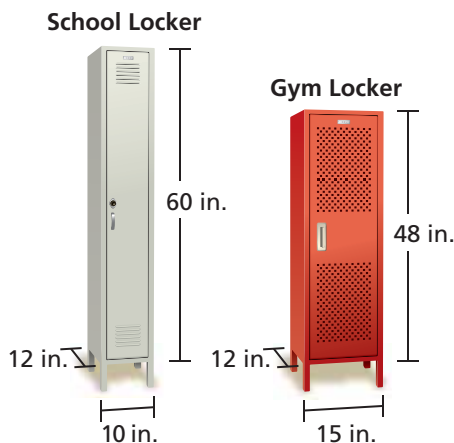


13. **ERROR ANALYSIS** Describe and correct the error in finding the volume of the triangular prism.



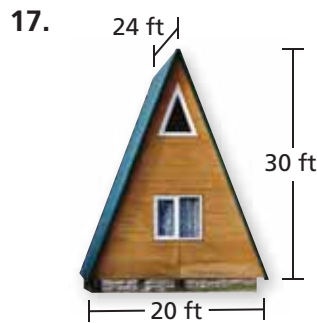
X

$$\begin{aligned} V &= Bh \\ &= 10(5)(7) \\ &= 50 \cdot 7 \\ &= 350 \text{ cm}^3 \end{aligned}$$



14. **LOCKER** Each locker is shaped like a rectangular prism. Which has more storage space? Explain.
15. **CEREAL BOX** A cereal box is 9 inches by 2.5 inches by 10 inches. What is the volume of the box?

Find the volume of the prism.



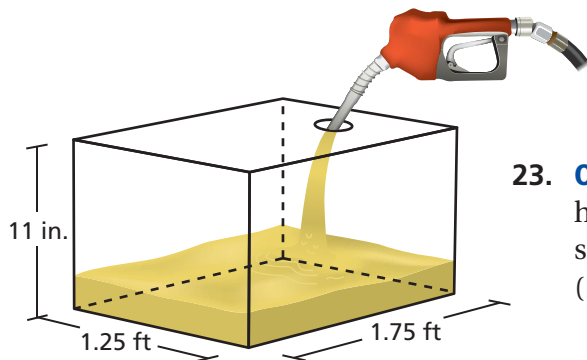
18. **REASONING** Two prisms have the same volume. Do they *always*, *sometimes*, or *never* have the same surface area? Explain.

19. **CUBIC UNITS** How many cubic inches are in a cubic foot? Use a sketch to explain your reasoning.

20. **CAPACITY** As a gift, you fill the calendar with packets of chocolate candy. Each packet has a volume of 2 cubic inches. Find the maximum number of packets you can fit inside the calendar.



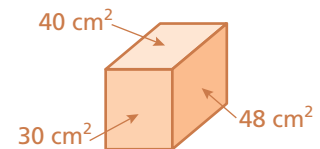
21. **HEIGHT** Two liters of water are poured into an empty vase shaped like an octagonal prism. The base area is 100 square centimeters. What is the height of the water? (1 L = 1000 cm³)



22. **GAS TANK** The gas tank is 20% full. Use the current price of gas in your community to find the cost to fill the tank. (1 gal = 231 in.³)

23. **OPEN-ENDED** The Pier Aquarium in St. Petersburg, Florida has a 450-gallon aquarium exhibit. Draw a diagram to show one possible set of dimensions of the tank. (1 gal = 231 in.³)

24. **Critical Thinking** What is the volume of the rectangular prism?



Fair Game Review What you learned in previous grades & lessons

Identify the transformation.

SECTION 5.5

SECTION 5.6

SECTION 5.7



28. **MULTIPLE CHOICE** What is the approximate surface area of a cylinder with a radius of 3 inches and a height of 10 inches?

SECTION 6.3

(A) 30 in.²

(B) 87 in.²

(C) 217 in.²

(D) 245 in.²