4.5 Independent Practice
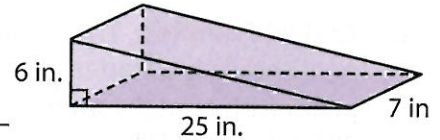
Personal
Math Trainer

Online
Assessment and
my.hrw.com   Intervention

7. A trap for insects is in the shape of a triangular prism. The area of the base is 3.5 in² and the height of the prism is 5 in. What is the volume of this trap?

_____

8. Arletta built a cardboard ramp for her little brothers' toy cars. Identify the shape of the ramp. Then find its volume.

_____

6 in.

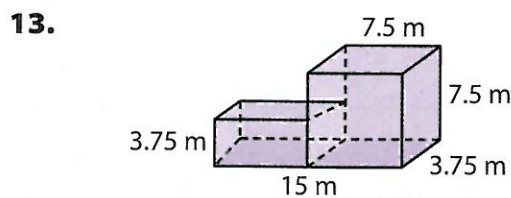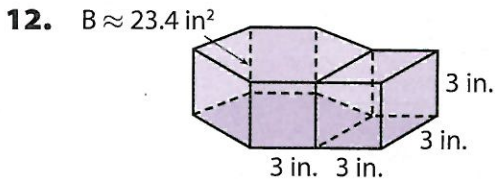25 in.   7 in

9. Alex made a sketch for a homemade soccer goal he plans to build. The goal will be in the shape of a triangular prism. The legs of the right triangles at the sides of his goal measure 4 ft and 8 ft, and the opening along the front is 24 ft. How much space is contained within this goal?

_____

10. A gift box is in the shape of a trapezoidal prism with base lengths of 7 inches and 5 inches and a height of 4 inches. The height of the gift box is 8 inches. What is the volume of the gift box?

_____

11. Explain the Error A student wrote this statement: "A triangular prism has a height of 15 inches and a base area of 20 square inches. The volume of the prism is 300 square inches." Identify and correct the error.

_____

Find the volume of each figure. Round to the nearest hundredth if necessary.

12. B ≈ 23.4 in²

3 in.

3 in.

3 in.   3 in.

13.

7.5 m

7.5 m

3.75 m

3.75 m

15 m

14. Multi-Step Josie has 260 cubic centimeters of candle wax. She wants to make a hexagonal prism candle with a base area of 21 square centimeters and a height of 8 centimeters. She also wants to make a triangular prism candle with a height of 14 centimeters. Can the base area of the triangular prism candle be 7 square centimeters? Explain.
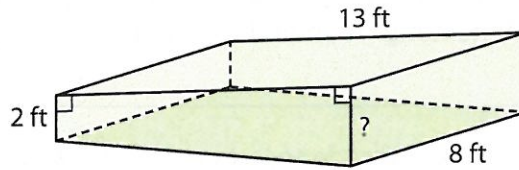
_____

15. A movie theater offers popcorn in two different containers for the same price. One container is a trapezoidal prism with a base area of 36 square inches and a height of 5 inches. The other container is a triangular prism with a base area of 32 square inches and a height of 6 inches. Which container is the better deal? Explain.
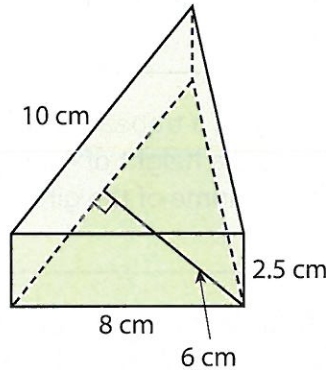
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H.O.T. **FOCUS ON HIGHER ORDER THINKING**

Work Area

16. Critical Thinking The wading pool shown is a trapezoidal prism with a total volume of 286 cubic feet. What is the missing dimension?

13 ft

2 ft   ?

8 ft

_____

17. Persevere in Problem Solving Lynette has a metal doorstop with the dimensions shown. Each cubic centimeter of the metal in the doorstop has a mass of about 8.6 grams. Find the volume of the metal in the doorstop. Then find the mass of the doorstop.

10 cm

2.5 cm

8 cm

6 cm

_____

_____

18. Analyze Relationships What effect would tripling all the dimensions of a triangular prism have on the volume of the prism? Explain your reasoning.

_____

_____

_____

_____

19. Persevere in Problem Solving Each of two trapezoidal prisms has a volume of 120 cubic centimeters. The prisms have no dimensions in common. Give possible dimensions for each prism.

_____

_____

_____

_____