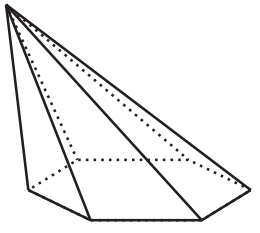
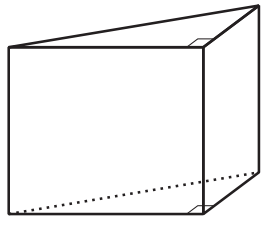
Lesson 12 Practice Problems

1. Give each solid a geometric name. Be as precise as you can.

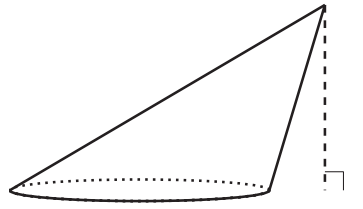
A



B



C



2. Each set of two-dimensional shapes is the complete list of faces from a particular solid. Match each set of shapes with the solid they came from.

A. 2 congruent triangles and 3 rectangles

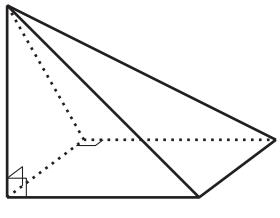
B. 4 triangles and 1 rectangle

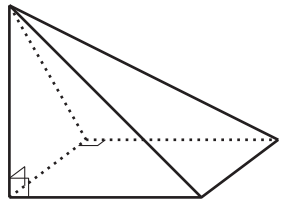
C. 2 squares and 4 congruent parallelograms

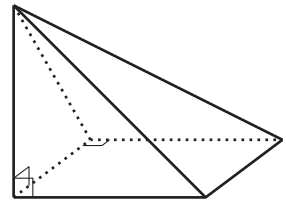
D. 4 congruent, equilateral triangles

1. right triangular prism
2. oblique square prism
3. right triangular pyramid
4. rectangular pyramid

3. These 3 congruent square pyramids can be assembled into a cube with side length 1 foot. What is the volume of each pyramid?







4. A prism has a height of 4 inches and a volume of 120 cubic inches. Select **all** figures that could be the base for this prism.

   A. a 5 inch by 6 inch rectangle

   B. a square with side length 5 inches

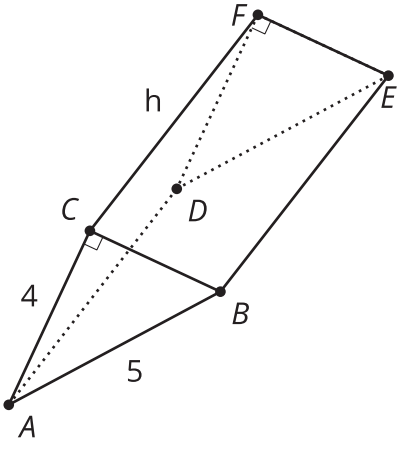
   C. a circle with radius 5 inches

   D. a star-shaped base with area 30 square inches

   E. a right triangle with legs 5 inches and 12 inches

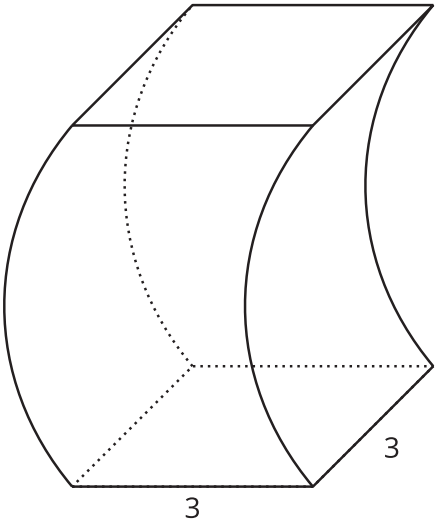
   (From Unit 5, Lesson 11.)

5. This prism has a right triangle for a base. The volume of the prism is 54 cubic units. What is the value of h?



   (From Unit 5, Lesson 11.)

6. This solid has curved sides. All cross sections parallel to the base are squares measuring 3 units on each side. The height from the base to the top is 5 units. What is the volume of this solid?



(From Unit 5, Lesson 10.)

7. Find the volume of each solid.

   a. a cylinder with radius 3 inches and height 2 inches

   b. a hexagonal prism whose base has area 4.5 square centimeters and whose height is 7 centimeters

   c. a prism 5 feet tall whose base is a right triangle with leg lengths $\frac{3}{2}$ feet and 9 feet

(From Unit 5, Lesson 9.)

8. A circle with area π square units is dilated using a scale factor of 5. What is the area of the dilated circle?

(From Unit 5, Lesson 4.)