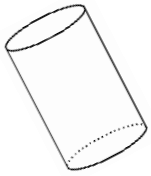
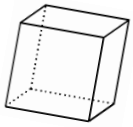
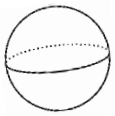
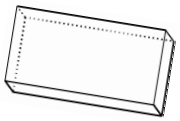
NAME DATE PERIOD

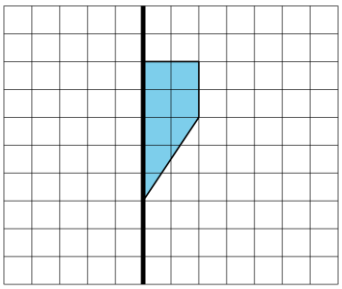
Unit 5 Review

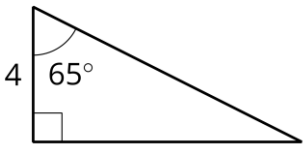
1. Rectangular prism *A* measures 3 inches by 4 inches by 8 inches. Rectangular prism *B* measures 5 inches by 5 inches by 6 inches.

   a. Calculate the surface area, volume, and surface area to volume ratio for each prism.

2. Suppose this two-dimensional figure is rotated 360 degrees using the vertical axis shown. Each small square on the grid represents 1 square inch. What is created? What is the volume of the three-dimensional figure?



3. A triangular prism has height 8 units. The base of the prism is shown in the image. What is the volume of the prism? Round your answer to the nearest tenth.



4. A cone-shaped container is oriented with its circular base on the top and its apex at the bottom. It has a radius of 12 inches and a height of 8 inches. The cone starts filling up with water. What fraction of the volume of the cone is filled when the water reaches a height of 2 inches?

5. Find the volume of a pyramid whose base is a square with sides of length 4 units and which has a height of 10 units.

6. A solid has volume 4 cubic units and surface area 10 square units. The solid is dilated, and the image has volume 108 cubic units. What is the surface area of the image?

7. A right cone has a base with diameter 10 units. The volume of the cone is 100π cubic units. What is the length of a segment drawn from the apex to the edge of the circular base?

8. A pyramid has a height of 4 inches and a volume of 40 cubic inches. Select **all** figures that could be the base for this pyramid.

   a. a 5 inch by 2 inch rectangle
   b. a 3 inch by 10 inch rectangle
   c. a triangle with height 10 inches and base 3 inches
   d. a right triangle with one side 5 inches and the hypotenuse 13 inches
   e. a heart with area 30 square inches

9. Select **all** solids for which the formula $V = Bh$ applies.

   a. a triangular prism
   b. a triangular pyramid
   c. a square pyramid
   d. a rectangular prism
   e. a cone
   f. a cylinder