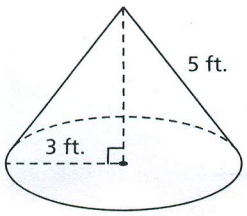
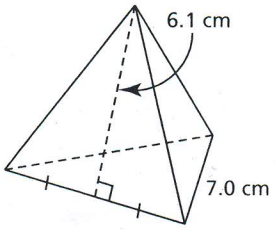
Precalculus 10 Chapter 1 Practice Test

1. Which imperial unit is the most appropriate unit to measure each item? Justify your choice.
   a) The length of your arm
   b) The width of the classroom
   c) The distance you ran in gym class
2. Convert:
   a. 14 yd. to feet
   b. 5 mi. to yards
   c. 6 ft. 3 in. to inches
   d. 123 in. to yards, feet and inches
3. Convert each measurement:
   a. 261 cm to feet and the nearest inch
   b. 125 m to yards, feet, and the nearest inch
   c. 6 km to miles and the nearest yard
   d. 350 mm to feet and the nearest inch
4. Convert each measurement. Answer to the nearest tenth.
   a. 13 yd. 2 ft. to metres
   b. 4 mi. 350 yd. to kilometres
   c. 1 ft. 7 in. to centimetres
   d. 8 ½ in. to millimetres
5. Determine the surface area of each object to the nearest square unit.

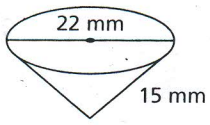
a) right cone



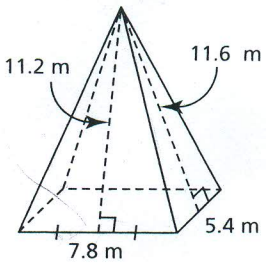
b) regular tetrahedron



c) right cone



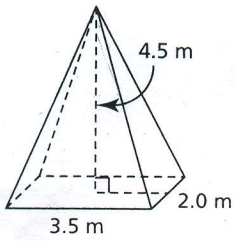
d) right rectangular pyramid



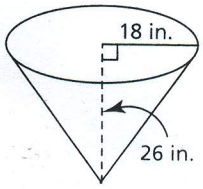
6. A right rectangular pyramid has base dimensions 7 yd. by 5 yd. and a height of 10 yd. Determine the surface area of the pyramid to the nearest square yard.
7. Julie is constructing a tent in the shape of a right square pyramid. She uses four poles, each 2.1 m long, for the edges that form the triangle surfaces. The side length of the base of the tent is 1.5 m.
   a. Sketch the diagram of the tent
   b. What is the slant height of the tent to the nearest tenth of a metre?
   c. What is the lateral surface area of the tent to the nearest square metre?
8. An ice cream cone is to be coated with chocolate on the inside. The cone has an interior diameter of 7.5 cm and an interior height of 10 cm. What is the area to be coated? Write the answer to the nearest tenth of a square unit.

9. Determine the volume of each object to the nearest cubic unit.

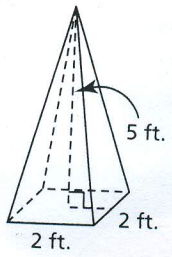
a) right rectangular pyramid



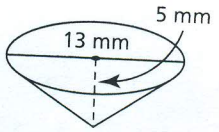
b) right cone



c) right square pyramid



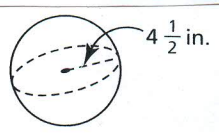
d) right cone



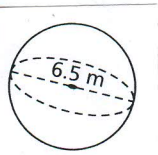
10. To determine the volume of a cone, Owen measured it's slant height as 7.5 cm and it's base diameter as 9.6 cm. Can Owen determine the volume of the cone with only these measurements? If your answer is yes, show your solution. If your answer is no, explain what Owen needs to do to determine the volume, then calculate the volume.
11. Emma used water displacement in a large measuring cylinder to determine that the volume of a right square pyramid was 400 cm^3. Emma measured the side of the base as 10 cm. What was the height of the pyramid?
12. a) A solid Iron garden ornament has the shape of a right square pyramid. The slant height of the pyramid is 8 in. and the side length of the base is 3 in. Determine the volume of the garden ornament to the nearest cubic inch.

    b) Another garden ornament has volume 96 cubic inches. It has the same shape and the same height as the ornament in part A. What is the side length of its base to the nearest inch?
13. Determine the surface area and volume of each sphere. Write the answers to the nearest whole unit.

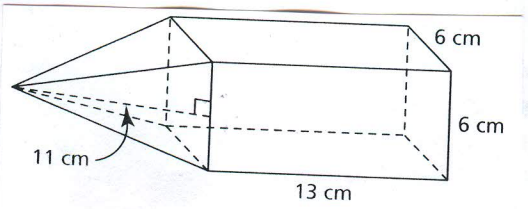
a)



b)



14. The surface area of a sphere is approximately 66 square inches. What is the diameter of the sphere to the nearest tenth of an inch?
15. Determine the surface area and volume of each composite object to the nearest whole unit.
    a. Right square prism and right square pyramid



    b. Right cylinder and right cones