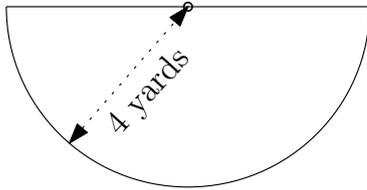Math 0020   March 1, 2017   Homework 12

Look in your text for formulas to use on these problems. Where a drawing is not provided, make a sketch of the geometrical object. You need not draw them to scale. Use units in your answers! Length will be in cm, m, ft, mi, and so forth. Area will be in in^2, cm^2, ft^2, mi^2 and so forth. Volume with be in in^3, cm^3, ft^3, mi^3 and so forth. Metric units of volume are typically mL and L: 1 cm^3= 1 mL, and 1000 cm^3= 1 L.

1. Find the circumference of a circle with a radius of 7 meters.

2. Find the area of a circle with a diameter of 6 inches.

3. What is the area of the semicircle here?

4. A rectangle has length 24 inches and width 18 inches. What is the perimeter of this rectangle?

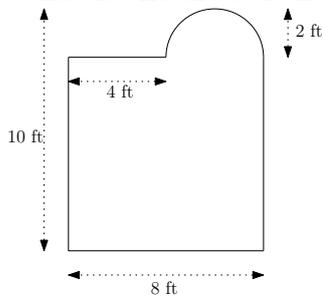5. What is the area of a rectangle 148.2 cm long and 1.3 m wide?

6. The height of a triangle is 12.4.6 ft, and the altitude is 9.3 ft. What is the area of the triangle?

7. The three sides of a right triangle have lengths 130, 120, and 50 cm. What is the area of the triangle?
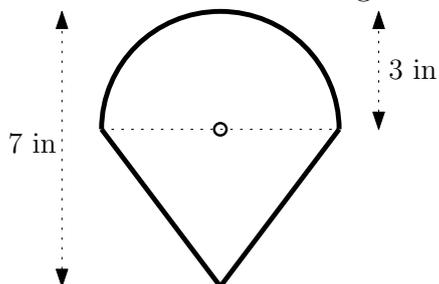
8. The two shorter sides of a right triangle are 5.3 ft and 7.1 ft long. What is the length of the hypotenuse?

9. The hypotenuse of a right triangle is 41.1 inches long, and one of the other sides is 15.3 inches long. What is the length of the remaining side?

10. What is the area of the figure below composed of rectangles and a semicircle?
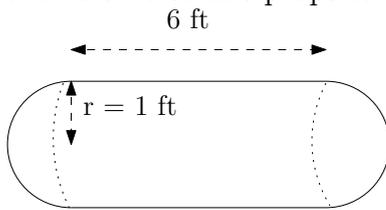

11. What is the area of the figure below composed of a triangle and a semicircle?

12. Find the volume of a sphere with a radius of 4 m.

13. Find the volume of the Moon in cubic miles. The radius of the Moon is 1080 miles.

14. A meter was originally defined to be 1 ten-millionth of the distance from the equator to the North Pole. Approximate surface area of The Earth in square kilometers by assuming that The Earth is a sphere.

15. Find the volume of a cylinder having height 7.6 feet and a radius of 2.1 feet.

16. An cylindrical oil can is 36 cm high and has a radius of 12 cm. What is the volume of this can in liters? 1 liter equals $1000 cm^3$.

17. A propane tank is made from an open steel cylinder 6 ft long with a radius of 1 ft, and the ends are capped with steel hemispheres each with a radius of 1 ft. What is the volume of this propane tank if cubic ft ?

6 ft

r = 1 ft

18. A grain silo is 40 ft high with a radius of 8 feet, and it is topped with a hemisphere. What is the volume of the silo in cubic feet?

h = 40 ft

D = 16 ft