Geometry/Trig
12-4 worksheet

Name _____
Date _____ Block _____

For #1-6, suppose a sphere has the given information. Complete the chart and leave your answers in terms of π.

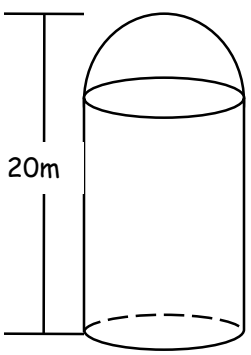
	1.	2.	3.	4.	5.	6.
Radius	7	5				
Total Area			64π	324π		
Volume					288π	36π

Solve each word problem. Please leave your answers in the specified form.

7) A full scoop of ice cream with diameter 6cm is placed in an ice-cream cone with diameter 5cm and height 12cm. Is the cone big enough to hold all the ice cream if it melts?

8) Approximately 70% of the Earth's surface is covered by water. If the radius of the Earth is approximately 6380km, find the area covered by water to the nearest million square kilometers.

9) A silo of a barn consists of a hemisphere (half a sphere) on top of a cylinder. Find the volume of a silo with a diameter of 10m and height of 20m. Round to the nearest tenth. Use π = 3.14.



10) A hollow rubber ball has an outer radius of 11cm and inner radius of 10cm. Find the volume of the rubber to the nearest cubic centimeter. Use $\pi = 3.14$.

11a) Find the volume of a sphere inscribed in a cube with edges 6cm long. Leave your answer in terms of π.

b) Find the volume of the region inside the cube but outside the sphere. Leave your answer in terms of π.

12) A standard sized basketball has a circumference of 29.5 inches. Use $\pi = 3.14$.

a) Determine the number of square inches of rubber necessary to construct the ball. Round to the nearest tenth.

b) How many cubic inches of air are required to inflate the ball? Round to the nearest tenth.

13) Which figure will have the largest volume? Leave your answers in terms of π and show all work.

Figure A: Cylinder with radius = 3in and height = 6in.
Figure B: Cone with radius = 6in and height = 4in.
Figure C: Sphere with radius = 3in.