**COSC 1436- Spring 2015**

**Lab/Program #1- Chapters 1-3**

**Total Points: 10**

Implement the following as a C++ program for full credit. Please submit .cpp file through blackboard. (**10 pts.)**

Write a C++ to calculate the number of dimples that could be found on new golf balls. Ask the user for the diameter (in inches) of a golf ball and then ask for the required square inch value for one dimple. Most golf ball dimples on a “normal” golf ball cover about 1/8th square inches (0.1250). The program should calculate the surface area and then using the square inch value for the dimple; determine the total number of dimples that can be punched onto the ball- an **integer** number only. Use **doubles** for the ball diameter and dimple square inch value. Write the results showing the ball diameter, surface area value, and total dimples for the golf ball. A sphere is described by its surface area is:



Use a named constant for PI. Format values to two decimal places. Output should look similar to below.

**Sample Output:**

Please enter the golf ball's diameter (inches): 1.68

Please enter the area for one golf ball dimple (inches): 0.1250

Your 1.68" golf ball has a surface area of 8.87 sq. inches.

It has enough area for 70 dimples (SurfaceArea of golf ball / area of ball dimple)

Name the program: DimplesXX.cpp. Where XX is your initials