MATH 213: LAB ASSIGNMENT (PARTNER WORK) FRIDAY, MAY 8

Name(s):_____

DUE TUESDAY 5/12.

BEFORE TOUCHING A COMPUTER

1. Fill out the **ESTIMATION lines** on the Volume Handout with your partner. Do not use any reference—computer, book, cell phone, internet link to brain, another team, etc. ….

2. Open up the Chapter 10 Online Applet linked to the Math 213 page.
   Use the chapter online, "Filling 3D Shapes," check each of your estimations and then fill in the computation (with applet) blanks on the Volume Handout.

3. Go to the scholarnet Surface Area and Volume "game" linked to your class homework page.
(http://www.scholarnet.co.nz/member/courses/smol/data/site/flash_apps/Measurement.php)
   a. For the cube, play several rounds of the game and answer these questions:
      i. What is a quick way to compute the volume of a cube?

      ii. What is a quick way to compute the surface area of a cube?

   b. For the "cuboid," play several rounds of the game and answer these questions:
      i. What is another name for a cuboid?

      ii. What is a quick way to compute the volume of a cuboid?

      iii. What is a quick way to compute the surface area of a cuboid?

   c. For the cylinder, play several rounds of the game and answer these questions:

i. What is a quick way to compute the volume of a cylinder?

ii. What is a quick way to compute the surface area of a cylinder?

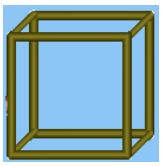
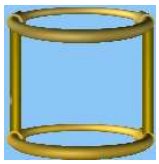
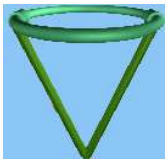
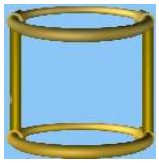
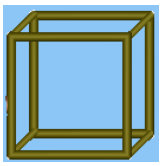
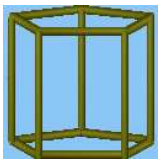
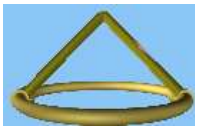
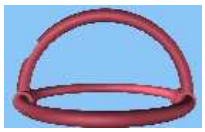
d. For the cone, play several rounds of the game and answer these questions:
   i. What is a quick way to compute the volume of a cone?

   ii. What is a quick way to compute the surface area of a cone?

e. For the sphere, play several rounds of the game and answer these questions:
   i. What is a quick way to compute the volume of a sphere?

   ii. What is a quick way to compute the surface area of a sphere?

4. Do the 10.3 Problem Opener on page 694 of the book. In addition to the question asked, give the surface area of the 10th figure.

Pyramid and cube (same base and altitude). How many filled pyramids does it take to fill the cube? **Estimation** _____ **Computation** _____	 
Sphere and cylinder (same diameters, height of cylinder is also diameter of sphere). How many filled spheres does it take to fill the cylinder? **Estimation** _____ **Computation** _____	 
Cone and cylinder (same base and altitude). How many filled cones does it take to fill the cylinder? **Estimation** _____ **Computation** _____	 
Sphere and cube (diameter of sphere is the same length as the side of the cube). How many filled spheres does it take to fill the cube? **Estimation** _____ **Computation** _____	 
Pyramid and Prism (same base and altitude). How many filled pyramids does it take to fill the prism? **Estimation** _____ **Computation** _____	 
Cone and Hemisphere (same bases, height of cone is also radius of hemisphere). How many filled cones does it take to fill the hemisphere? **Estimation** _____ **Computation** _____	 
Half cone and cone (same base). How many filled half-cones does it take to fill the cone? **Estimation** _____ **Computation** _____