MA 501 Homework #10
Due Tuesday, April 16, in class

1. Read Chapters 11 and 16 of the SMSG text Unit 14 Student's Text, Part II, and then answer these questions:

   (a) Page 338, #21.
   (b) Page 353, #28.
   (c) Page 565, #8.

2. For each of the following objects, look up the formulas for the volume and surface area. Use these formulas to verify that if the object is scaled so that corresponding lengths are each multiplied by a factor of k, then the surface area is multiplied by a factor of k^2 and the volume is multiplied by a factor of k^3.

   (a) Cube of side length s.
   (b) Rectangular box (with top and bottom) (rectangular parallelepiped) of length ℓ, width w, and height h.
   (c) Sphere of radius r.
   (d) Right cylinder (with circular top and bottom) of radius r and height h.
   (e) Right cone (with circular bottom) of radius r and height h.
   (f) Right pyramid (with square base) of base side length s and height h.