Chapter 3 Problem IV (+1) Name _____

23. A student finds a shiny piece of metal that she thinks is aluminum. In the lab, she determines that the metal has a volume of 245 cm^3 and a mass of 612 g. Calculate the density. Is the metal aluminum?
    D = mass / volume

24. The density of silver at 20°C is 10.5 g/cm^3. What is the volume of a 68 g bar of silver?

26. A weather balloon is inflated to a volume of 2.2 x 10^3 L with 37.4 g of helium. What is the density of He in grams per liter?

27. List some applications of the measurement of specific gravity.

28. A plastic ball with a volume of 19.7 cm^3 has a mass of 15.8 g. What is its density? Would this ball sink or float in a container of gasoline?

29. Given samples of gold, gasoline, ice, mercury, lead, and Al, which substances have the highest and lowest specific gravity?
    Highest: _____
    Lowest: _____

60. Would the density of a person be the same of the surface of Earth as it is on the surface of the moon? Explain.

62. Why doesn't a measure of specific gravity have a unit?

63. Use the values in Table 3.7 to calculate the specific gravity of the following substance at 20°C.
    a) Aluminum
    b) mercury
    c) ice

64. Three balloons filled with neon, carbon dioxide, and hydrogen are released into the atmosphere. Using the data in Table 3.7, describe the movement of each balloon.