Chapter 4 Problem II (+1) Name _____

15. What conversion factor would you use to convert between these pairs of units?
    a) minutes to hours
    b) gram to cubic centimeters of water
    c) grams to milligrams
    **d) cubic decimeters to milliliters

16. Make the following conversion. Express answers in scientific notation.
    a) 36 cm to meter
    b) 14.8 g to microgram
    c) 1.44 kL to liter
    d) 68.9 m to decimeters
    e) 3.72×10^{-3} kg to grams
    f) 66.3 L to cubic centimeters
    g) 0.0371 m to kilometers

17. A 2.00 kg sample of bituminous coal is composed of 1.30 kg of carbon, 0.20 kg of ash, 0.15 kg of water, and 0.35 kg of volatile material. Using this information, determine how many kilograms of carbon are in 125 kg of this coal.

18. Which of the following linear measures is the longest?
    a) 6×10^{4} cm b) 6×10^{6} mm c) 0.06 km d) 6×10^{9} nm

19. An atom of gold has a mass of 3.271×10^{-22} g. How many atoms of gold are in 5.00 g of gold?

28. Convert the following. Express answers in scientific notation.
    a) 7.5×10^4 nm to kilometers

    b) 3.9×10^5 mg to decigrams

    c) 0.764 km to centimeters

    d) 2.21×10^{-4} dL to microliters

31. What is the mass, in kilograms, of 14.0 L of gasoline? (Density of gasoline = 0.680 g/cm^3)

37. What must be true for a ratio of two measurements to be a conversion factor?

38.

42.