

Chemistry 1 Worksheet
More Practice Problems (to help study for quiz on Friday)

Name _____ Period _____

1. For the masses and volumes indicated, calculate the density in grams per cubic centimeter g/cm^3 , show all work and give the answer with the correct sig figs.

a. mass = 1.00 g; volume = 500. cm^3

b. mass = 26.3g ; volume = 25.0 mL (1 mL=1 cm^3)

c. mass = 4.35 kg; volume = 225 cm^3

2. An organic solvent has a density of .935 g/mL. What is the mass of 32.1 mL of the liquid?

3. A sample containing 29.45 g of metal pellets is poured into a graduated cylinder initially containing 15.7 mL of water, causing the water level to rise to 29.5mL. Calculate the density of the metal.

4. For the following make the indicated conversion. Expanded notation means no exponent.

a. 122.4×10^5 to Expanded notation _____

b. 5.993×10^{-3} to Expanded notation _____

c. 0.0004321×10^4 to Expanded notation _____

d. 0.0000000921 to scientific notation _____

e. 5.241×10^1 to Expanded notation _____

5. Use a calculator to evaluate the following mathematical expressions, making sure to express the answer with the correct sig figs. You might want to write the answer first and then give the answer with the correct significant figures (s.f.). Remember addition and subtraction is based on the least accurate, multiplication and division is based on the least number of sig. figs. Don't forget to put units in your answer.

a. $10.20 \text{ cm} + 4.2 \text{ cm} + 26.001 \text{ cm} =$ _____

b. $1.091 \text{ cm} - 0.99 \text{ cm} + 1.2 \text{ cm} =$ _____

c. $(4.05 \text{ m} + 5.1 \text{ m})(2.032 \text{ m} - 1.02 \text{ m}) =$ _____ (use two s.f.)

d. $(67.20 \text{ cm})(1.003 \text{ cm})(2.4 \text{ cm}) =$ _____

e. $(1.68 \times 10^{-9} \text{ mm})(1.1 \times 10^{-4} \text{ mm}) =$ _____

f. $(4.02 \times 10^{-4} \text{ cm})(2.91 \times 10^3 \text{ cm}) \div (9.112 \times 10^{-1} \text{ cm}) =$ _____

g. $(1.05 \times 10^{-3} \text{ m} + 2.1 \times 10^1 \text{ m}) \div 4.51 \times 10^3 \text{ m} =$ _____

h. $(1.52 \times 10^{-3} \text{ cm})^2 \div 1.074 \times 10^{-7} \text{ cm} =$ _____

i. $37.2 \text{ mL} + 18.0 \text{ mL} + 380 \text{ mL} =$ _____

j. $0.57 \text{ cm} \times 0.86 \text{ cm} \times 17.1 \text{ cm} =$ _____

k. $(8.13 \times 10^4 \text{ g}) \times (3.8 \times 10^2 \text{ g}) =$ _____

l. $71.3 \text{ kg} + 0.08 \text{ kg} =$ _____

m. $71.3 \text{ kg} \times \frac{44.962 \text{ amu}}{110.3 \text{ amu}} =$ _____