

CHM 109 Homework version C (M-Z) 1 pt Sp 2012

Sci. notation, s.f., p^+ , e^- , n & conversions Due Th (2/1) or F, (2/2) at the start of lecture.

1. (0.5 pt)

a) Convert the following into scientific notation, indicate the number of significant figures and the least (farthest to the right) significant place:

0.004110 _____

72.0 _____

of s.f. _____

of s.f. _____

Sig place farthest to right _____

Sig place farthest to right _____

b) Convert the following into standard notation:

$$8.46 \times 10^{-5}$$

$$3.8372 \times 10^4$$

2. (0.2 pt) Indicate the number of protons (p^+), electrons (e^-), and neutrons (n) for the following.

p^+ # e^- # n

a) ^{27}Al

b) ^{80}Br

3. (0.1 pt) Solve the calculation, giving your answer with the correct number of s.f. (Assume all numbers are measured quantities.)

$$\frac{(5.8007)}{(0.2341) \times (493.130 - 489.05)}$$

4. (0.2 pt) Using the following conversion factors (along with any metric to metric you need): 1 oz. = 437.5 grains, 453.6 g = 1 lb, 1 gallon = 3.785 L, 16 oz = 1 lb (definition), 1 tablespoon = 14.787 mL, 1 teaspoon = 4.9289 mL, convert the following:

a) 0.960 oz to cg

b) 1.58×10^{-3} gallons to tablespoons