

1. (5 points) Give the name or formula for the following: No partial credit

(a) H_2SO_4 Sulfuric Acid (b) Nitric Acid _____

(c) $HC_2H_3O_2$ Acetic Acid (d) sodium phosphate Na_3PO_4

(e) CuO Copper (II) oxide

2. (2 points) How many grams of carbon are there in 21.5 g of C_2H_6O (46.07 g/mol)?

$$21.5g C_2H_6O \times \frac{1 mol}{46.07g} \times \frac{2 mol C}{1 mol C_2H_6O} \times \frac{12.01g}{1 mol C}$$

(-1/2 for sf -1/2 for units) answer: 11.2 g C

3. (3 points) How many nitrogen atoms are there in 1.55 g of $(NH_4)_2Cr_2O_7$ (252.08 g/mol)?

$$1.55g (NH_4)_2Cr_2O_7 \times \frac{1 mol}{252.08g} \times \frac{8 mol N}{1 mol (NH_4)_2Cr_2O_7} \times \frac{6.022 \times 10^{23} N\text{-atoms}}{1 mol}$$

(-1/2 for sf -1/2 for units) answer: 2.96×10^{22} N-atoms

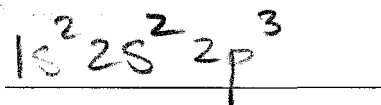
4. (3 points) List which valence electron areas (*s-block*, *p-block*, *d-block* or *f-block*) the following elements belong to:

(a) Fe d-block

(b) Cs s-block

(c) O p-block

2. Give the electron configuration of nitrogen:



No partial credit