**Mini-quiz #14 Chemistry 1114 section 2 (Fong) 1 Oct 2014 3 pts A**

**Your name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**SHOW WORK FOR BOTH PROBLEMS OR NO CREDIT WILL BE ASSIGNED**

14.1 A compound with empiric formula: N2H3O has a molecular mass of 188 g/mol. Given the atomic

 masses (g/mol) : N=14, H=1, O=16, what is the molecular formula of the compound ?

MW of N2H3O= 2\*14+3\*1+16=47

188/47=4=> N2\*4H3\*4O4 =N8H12O4

 \_\_\_\_ N8H12O4\_\_\_\_\_\_\_\_\_ molecular formula

14.2. A hydrocarbon, CxHy, is burned to yield 132 g CO2 (MW=44 g/mol) and 45.0 g H2O(MW=18).

 What is the empiric formula of CxHy ?

Mol CO2 = mol C= 132/44=3

Mol H2O= ½ mol H= 45/18=2.5=> mol H=2\*2.5=5

 \_\_\_\_\_C3H5\_\_\_\_\_\_\_\_\_\_\_\_ empiric formula for CxHy

**Mini-quiz #14 Chemistry 1114 section 2 (Fong) 1 Oct 2014 3 pts B**

**Your name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**SHOW WORK FOR BOTH PROBLEMS OR NO CREDIT WILL BE ASSIGNED**

14.1 A compound with empiric formula: C3H5O has a molecular mass of 285 g/mol. Given the atomic

 masses (g/mol) : C=12, H=1, O=16, what is the molecular formula of the compound ?

MW C3H5O = 3\*12 +5\*1+16= 57 g/mol

285/57=5=> C3\*5H5\*5O5 =C15H25O5

\_\_\_ C15H25O5\_\_\_ molecular formula

14.2. A hydrocarbon, CxHy, is burned to yield 176 g CO2 (MW=44 g/mol) and 90 g H2O(MW=18).

 What is the empiric formula of CxHy ?

Mol CO2 = mol C= 176/44=4

Mole H2O= ½ mol H = 90/18=5=> mol H=2\*5=10

\_\_\_\_\_ C4H10🡪 C2H5\_\_\_\_ empiric formula for CxHy