**Chem 1013: mini-quiz # 19: reaction balancing and reaction stoichiometry A**

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

**1. Balance this equation**

 **­­\_2\_ C4H10  + \_9\_ O2 🡪 \_8\_\_CO + ­\_\_10\_\_H2O**

**2. Propane (C3H8) reacts according to the balanced reaction below:**

**C3H8 + 5O2🡪 3CO2 +4H2O**

 **Molecular wts 44 32 44 18 g/mol**

**a) How many moles of H2O are formed with 15 moles of CO2 ?**

**Mol H2O/Mol CO2 = 4/3 =x/15**

 **15\*4/3 =x= 20**

 **\_\_20\_\_\_\_\_\_ mol H2O**

**b) How many grams of C3H8 must burn to form 0.4545 mol H2O ?**

**mol C3H8/mol H2O= 1/4= x/0.4545**

**x=mol C3H8=(1/4)\*0.4545=0.113625**

**multiply down to mass=> 0.113625\*44=5**

 **\_\_5\_\_\_\_\_ g C3H8**

**Chem 1013: mini-quiz # 19: reaction balancing and reaction stoichiometry B**

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

**1. Balance this equation**

 **­­\_2\_ C6H14  + 13\_\_ O2 🡪 \_12\_\_CO + ­\_14\_\_\_H2O**

**2. Propane (C3H8) reacts according to the balanced reaction below:**

**C3H8 + 5O2🡪 3CO2 +4H2O**

 **Molecular wts 44 32 44 18 g/mol**

**a) How many moles of CO2 are formed with 20 moles of H2O ?**

**Mol CO2/Mol H2O= 3/4 =x/20**

 **20\*3/4 =x= 15**

 **\_\_\_\_15\_\_\_\_ mol CO2**

**b) How many grams of C3H8 must burn to form 0.27272 mol H2O ?**

**mol C3H8/mol H2O= 1/4= x/0.27272**

**x=mol C3H8=(1/4)\*0.27272=0.06818**

**multiply down to mass=> 0.06818\*44=3.0**

 **\_\_3\_\_\_\_\_ g C3H8**