**Mini-quiz #17 Chemistry 1114 section 2 (Fong) 10 October 2014 3 pts A**

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

**Butane (C4H10) has a molecular weight of 58 g/mol and burns according to the stoichiometrically balanced reaction below:**

**2C4H10 +13 O2 🡪 8CO2 + 10H2O**

**How many moles of CO2 form when we burn 29 grams of C4H10 ? (Show work !)**

**1) convert weight to moles: 29 g C4H10\*1 mol C4H10/58 g C4H10 = 0.5 mol C4H10**

**2) connect C4H10🡪 CO2 via mol ratios:**

**m(CO2)/0.5 = 8/2**

**3) solve for m(CO2) :**

**m(CO2) = 0.5\*8/2= 2**

**Mol CO2 =\_\_\_\_\_\_\_2\_\_\_\_\_\_**

**Mini-quiz #17 Chemistry 1114 section 2 (Fong) 10 October 2014 3 pts B**

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

**Pentane (C5H12) has a molecular weight of 72 g/mol and burns according to the stoichiometrically balanced reaction below:**

**C5H12 +8 O2 🡪 5CO2 + 6H2O**

**How many moles of H2O form when we burn 12 grams of C5H12 ? (Show work !)**

**1) convert weight to moles: 12 g C5H12\*1 mol C5H12/72 g C5H12 = 0.1666 mol C5H12**

**2) connect C5H12🡪 H2O via mol ratios:**

**m(H2O)/0.1666 = 6/1**

**3) solve for m(H2O) :**

**M(H2O ) = 0.16666\*6= 1**

**Mole H2O= \_\_\_1\_\_\_\_**

**Mini-quiz #17 Chemistry 1114 section 2 (Fong) 10 October 2014 3 pts C**

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

**Hexane (C6H14) has a molecular weight of 86 g/mol and burns according to the stoichiometrically balanced reaction below:**

**2C6H14 +19 O2 🡪 12CO2 + 14H2O**

**How many moles of H2O form when we burn 36.855 grams of C6H14 ? (Show work !)**

**1) convert weight to moles: 36.855 g C6H14\*1 mol C6H14/86 g C6H14 = 0.4285 mol C6H14**

**2) connect C6H14🡪 H2O via mol ratios:**

**m(H2O)/0.4285 = 14/2=7**

**3) solve for m(H2O) :**

**M(H2O ) = 0.4285\*7= 3 mole H2O= 3\_**