

### CYCLE 3 REMEDIAL ASSIGNMENT – BAUCK

- 1) Describe how a synthesis (combination) reaction works. Give a balanced example.
- 2) Describe how a decomposition reaction works. Give a balanced example.
- 3) Describe how a single displacement reaction works. Give a balanced example.
- 4) Describe how a double displacement reaction works. Give a balanced example.
- 5) Describe how a complete combustion reaction works. Give a balanced example.
- 6) Describe how an incomplete combustion reaction works. Give a balanced example.

Use the following information for the stoichiometry questions. Show all math work, units, and sig. figs.

INCOMPLETE COMBUSTION OF HEXANE,  $C_6H_{14}$ .

- 7) Write the balanced equation from the directions above.
- 8) (non-stoich) How many grams of water are equivalent to  $3.69 \times 10^{24}$  r.p. of water? Specify the proper r.p. in your work.
- 9) (non-stoich) How many liters of carbon monoxide are equivalent to 1100 g of carbon monoxide, converted to STP conditions?
- 10) (stoich) How many moles of water are produced from 0.5789 moles of hexane?
- 11) (stoich) Using 145.00 g of hexane, how many liters of water are formed? Assume conversion to STP conditions.
- 12) (stoich) Using  $4.70 \times 10^{22}$  r.p. of oxygen, how many grams of water are formed? Specify the proper r.p. in your work.
- 13) (stoich: limiting reactant) 9.00 moles of each reactant are used.
  - a. Identify the limiting reactant, showing all work.
  - b. Identify the excess reactant, showing all work.
  - c. Calculate how much of each product is formed. (Two separate calculations).
  - d. Calculate how much excess reactant is left over.
- 14) (stoich: percent yield) If 44.44 grams of oxygen gas react with excess hexane, 32.66 g of carbon monoxide is produced. What is the percent yield of carbon monoxide?