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| **Chemistry 11**  **Limiting & Excess Reactants** | Name:  Date:  Block: |

1. Consider the following reaction: \_\_\_ C + \_\_\_ SO2 🡪 \_\_\_ CS2 + \_\_\_ CO
   1. What mass of CS2 is produced when 17.5 g of C are reacted with 39.5 g of SO2?
   2. What mass of the excess reactant will be left over?
2. Consider the following reaction: \_\_\_ Cu + \_\_\_ HNO3 🡪 \_\_\_ Cu(NO3)2 + \_\_\_ NO + \_\_\_ H2O
   1. What mass of NO is produced when 87.0 g of Cu are reacted with 225 g of HNO3?
   2. What mass of the excess reactant will be left over?
3. Consider the following reaction: \_\_\_ Ca3(PO4)2 + \_\_\_ SiO2 + \_\_\_ C 🡪 \_\_\_ P4 + \_\_\_ CaSiO3 + \_\_\_ CO
   1. What mass of P4 is produced when 41.5 g of Ca3(PO4)2, 26.5 g of SiO2 and 7.80 g of C are reacted?
   2. How many grams of each excess reactant will remain unreacted?
4. Consider the following reaction:

\_\_\_ K2Cr2O7 + \_\_\_ KBr + \_\_\_ H2SO4 🡪 \_\_\_ K2SO4 + \_\_\_ Cr2(SO4)3 + \_\_\_ Br2 + \_\_\_ H2O

* 1. What mass of Br2 is produced when 25.0 g of K2Cr2O7, 55.0 g of KBr and 60.0 g of H2SO4 are reacted?
  2. How many grams of each excess reactant will remain unreacted?

1. What volume of CO2 can be made when 0.0250 L of C5H12 (density = 626.0 g/L) is reacted with 40.0 L of O2 at STP, according to the equation

\_\_\_\_\_ C5H12 + \_\_\_\_\_ O2 🡪 \_\_\_\_\_ CO2 + \_\_\_\_\_ H2O

1a. 22.2g CS2 1b. 2.2g SO2 2a. 26.8g NO 2b. 1.9g Cu 3a. 8.05g P4 3b. 3.1g SiO2, 1.2g Ca3(PO4)2 4a. 36.9g Br2 4b. 2.3g K2Cr2O7, 7.1g H2SO4

5. 24.3L CO2