Name:

Block: _____

Stoichiometry #1

1. How much of each product would be made when 4.0 mol of $Pb(NO_3)_2$ decomposes in the reaction: $2 Pb(NO_3)_2 \longrightarrow 2 PbO + 4 NO_2 + O_2$

2. How much of each product would be made when 1.33 mol of Ca_3P_2 reacts with excess water in the double replacement reaction: $Ca_3P_2 + 6 H_2O \longrightarrow 3 Ca(OH)_2 + 2 PH_3$

3. How much AlCl₃ would you need to completely react with 1.5 mol Ca in the single replacement reaction: $3 \text{ Ca} + 2 \text{ AlCl}_3 \longrightarrow 3 \text{ CaCl}_2 + 2 \text{ Al}$

4. How much of each product would be made when 1.50 mol $\rm H_3PO_3$ decomposes in the reaction: $4\,\rm H_3PO_3 \longrightarrow 3\,\rm H_3PO_4 + PH_3$

5. How many moles of KCl would be produced from 0.175 mol of K and excess Cl₂ in the reaction: $2 \text{ K} + \text{Cl}_2 \longrightarrow 2 \text{ KCl}$

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6. How many moles of Na₂O would be required to produce 0.275 mol of NaOH in the reaction: Na₂O + H₂O \longrightarrow 2 NaOH

7. 8.75 mol of NaClO₃ will produce how many moles of O₂ in the reaction: 2 NaClO₃ $\longrightarrow 2$ NaCl + 3 O₂

8. How many moles of NaCl are produced in the following reaction when 44.8ℓ of O_2 are produced at S.T.P. in the reaction: $2 \operatorname{NaClO}_3 \longrightarrow 2 \operatorname{NaCl} + 3 \operatorname{O}_2$

9. How many grams of magnesium are needed to completely react with 2.0 mol of O_2 in the reaction: $2 Mg + O_2 \longrightarrow 2 MgO + 1203.2 kJ$