Name: _____ Band:_____ HW 8.1.

$4\ Al + 3\ O_2 \rightarrow 2\ Al_2O_3$

1) How many moles of Aluminum are needed to form 3.7 moles of Al_2O_3 ?

= _____ moles Al

2) How many moles of oxygen are required to react with 14.8 moles of Aluminum?

= _____ moles O_2

3) Calculate the number of moles of Al_2O_3 fromed when 0.78 moles of O_2 react with aluminum.

= _____ moles Al_2O_3

$5\ C + 2\ SO_2 \rightarrow CS_2 + 4\ CO$

4) How many moles of CS_2 form when 2.7 mole of C reacts?

= _____ moles CS_2

5) How many moles of Carbon are needed to react with 5.44 mole of SO_2?

= _____ moles C

6) How many moles of CO form at the same time that 0.246 mole of CS_2 forms?

= _____ moles CO

7) How many moles of SO_2 are required to make 118 moles of CS_2?

= _____ moles SO_2

8) List all the possible mole ratios for both reactions: (An example is given within each table)

	Al	**O_2**	**Al_2O_3**
Al	**N/A**	$\frac{3 \text{ moles } O_2}{4 \text{ moles Al}}$	
O_2		**N/A**	
Al_2O_3			**N/A**

	C	**SO_2**	**CS_2**	**CO**
C	**N/A**			
SO_2		**N/A**		$\frac{4 \text{ moles CO}}{2 \text{ moles } SO_2}$
CS_2			**N/A**	
CO				**N/A**