

mol/mol stoich (Homework)

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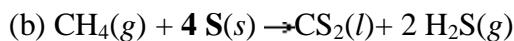
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1.

For each of the following balanced chemical equations, calculate how many moles and how many grams of each product would be produced by the complete conversion of **0.66** mol of the reactant indicated in boldface.

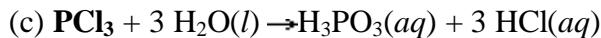


NH₄Cl



CS₂

H₂S



H₃PO₃

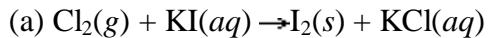
HCl



NaHCO₃

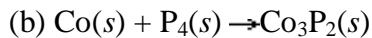
2.

For each of the following unbalanced equations, indicate how many moles of the second reactant would be required to react exactly with **0.413** mol of the first reactant. State clearly the mole ratio used for the conversion. (Use the lowest possible mole ratio.)



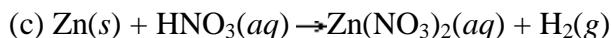
amount

mole ratio



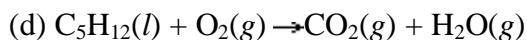
amount

mole ratio



amount

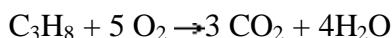
mole ratio



amount

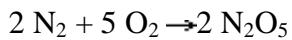
mole ratio

3.



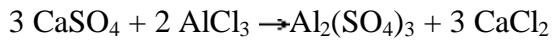
What is the mole ratio of water to carbon dioxide in the above reaction? (Type your answer using the format 1/2 or 0.5.)

4.



How many moles of O₂ would be required to produce 8.50 moles of N₂O₅ in the above reaction?

5.



How many moles of aluminum chloride are required to produce 74.0 g of calcium chloride in the above reaction?

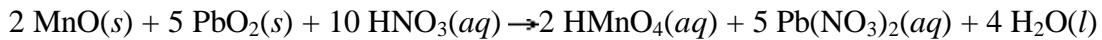
6.

Iodine monobromide and ammonia react to produce nitrogen triiodide and ammonium bromide.

(a) Balance the chemical equation for this reaction. (Use the smallest possible whole numbers. Enter 1 where appropriate. Do not leave any answer box blank.)

(b) How many moles of ammonium bromide could be produced if you start with 0.950 moles of ammonia and excess iodine monobromide?

7.



Manganese(II) oxide, lead(IV) oxide, and nitric acid react to produce permanganic acid, lead(II) nitrate, and water according to the reaction above. How many moles of each product could be produced by the reaction of 7.25 moles of nitric acid with excess manganese(II) oxide and excess lead(IV) oxide?