MOLE to MOLE Stoichiometry -2 steps -No Molar Mass =EASY

 SbCl5 + MnS2  🡪 Sb2S5 + MnCl4

Balance the above equation. Remember the coefficients represent the number of moles of that particular substance.

1) If you start with 8 mol of SbCl5, how many mol of MnCl4 are made?

2) If 20 mol of Sb2S5 are produced, you need how mol of MnS2?

3) If I start with 20 mol SbCl5, how many mol of MnS2 are required?

4) 10 mol of Sb2S5 are produced if you start with x mol of SbCl5 ?

5) 0.25 mol of SbCl5 will react with how many mol of Sb2S5??

INSTRUCTIONS: Step #1 –Write down your initial mol of substance & multiple it by the mol ratio-which is the mol of substance you want over the mol of starting substance. Step #2-Multiply & Divide, get answer.

Mole To Mass Stoichiometry Problems ( 3 Steps )

Make use of the following unbalanced equation for all the following

 N2O4 + H2O 🡪 NH3 + O2

1) If you start with 5.0 mol of N2O4, how many grams of O2 are made?

2) Starting with 7.5 mol of H2O, how many grams of NH3 are made??

3) How many grams of H2O are needed to produce 7.2 mol of O2??

4) How many grams of N2O4 are needed to yield 17.5 mol of NH3??

5) Starting with 6.50 mol of O2, how many grams of N2O4 are needed

Instructions: Step 1-Change from mole of given compound to moles of compound you WANT-do mole ratio switch Step 2-Change moles to grams by X by the molar mass. Step-3 Simplify – Multiply & divide get a result, Remember labels & Sig. Figs.

MASS to MOLE Stoichiometry Problems -3 Steps

 C8H18 + O2 🡪 CO2 + H2O

Use the above equation for all 5 mass to mole problems. Balance it.

1) If I start with 100.0 g of C8H18, how many mol of CO2 is made?

2) How many mol of O2 will be needed to burn 575 g of C8H18?

3) Using the mass of C8H18  in #2, how many mol of H2O are made?

4) If I have 12,540 g of CO2, how many mol ofC8H18 did I start with?

5) Using the mass of CO2 in #4, how many mol of O2 are needed?

Instructions: Step 1-change mass of substance to moles, Step 2-mole ratio step, Step 3 Simplify & arrive at an answer.

MASS to MASS STICHIOMETRY PROBLEMS

1. Li + N2 🡪 Li3N

If you start with 50.6 g of lithium, calculate the mass of Li3N that should be produced.

2. Al + Cl2 🡪 AlCl3

Assume in the above reaction that 50.0g of AlCl3 is produced. How many grams of Cl2 was required to produce it??

3. FeS + HCl 🡪 FeCl2 + H2S

How many grams of Hydrogen Sulfide gas will be produced from 10.0-g of FeS & excess HCl?

4. H2 + O2 🡪 H2O

Calculate the mass of water produced from 100.0 g of molecular hydrogen & excess oxygen.

5. N2 + H2 🡪 NH3

Determine the mass of Ammonia (NH3) produced when 140.1 g of N2 gas is reacted with excess Hydrogen.

STOICHIOMETRY-All Types Mixed Together

 C4H10 + O2 🡪 CO2 + H2O (balance the equation)

1. If you react 100.0 g of C4H10 , how many grams of CO2 are released?

2. How many grams of C4H10 are needed to form 2.50 mol water vapor?

3. Exactly 12.0 mol of butane will yield how many mol of CO2 ??

4. What mass of O2 is required to completely burn 10.0 mol C4H10?

5. How many mol of O2 is needed to burn 5500 g of Butane?

See the previous Stoichiometry pages for instructions.