MOLE CALCULATION WORKSHEET

Answer the following questions.

1) How many grams are there in 11.8 moles of sodium hydroxide?

2) How many molecules are there in 295 grams of ammonia?

3) How many moles are there in 215 grams of water?

4) How many moles are there in 8.25 x 10^{26} molecules of methane?

5) How many grams are there in 8.95 x 10^{26} molecules of carbon disulfide?

6) How many molecules are there in 3.85 moles of carbon tetrachloride?

MOLE CALCULATION WORKSHEET

1) How many grams are there in 11.8 moles of sodium hydroxide?

472 grams

Grams of NaOH = 11.8 x 40 grams = 472 grams

2) How many molecules are there in 295 grams of ammonia?

1.04×10^{25} molecules

Number of molecules = (295/17) x 6.023 x 10^{23} = 1.04 x 10^{25} molecules

3) How many moles are there in 215 grams of water?

11.9 moles

Number of moles = 215/18 = 11.9 moles

4) How many moles are there in 8.25×10^{26} molecules of methane?

1.37×10^{3} moles

Number of moles = (8.25 x 10^{26})/(6.023 x 10^{23}) = 1.37 x 10^{3} moles

5) How many grams are there in 8.95×10^{26} molecules of carbon disulfide?

1.13×10^{5} grams

Grams of CS_2 = [(8.95 x 10^{26})/(6.023 x 10^{23})] x 76.14 grams = 1.13 x 10^{5} grams

6) How many molecules are there in 3.85 moles of carbon tetrachloride?

2.32×10^{24} molecules

Number of molecules = 3.85 x 6.023 x 10^{23} = 2.32 x 10^{24}