Name : _____

Date : _____

MOLES, MOLECULES, & GRAMS
WORKSHEET

Answer the following questions.

1) How many molecules are present in 200 grams of CCl_4?

2) How many molecules are present in 230 grams of $COCl_2$?

3) How many molecules are there in 9.34 grams of LiCl?

4) How many molecules are present in 24 grams of FeF_3?

5) How much do 2.3×10^{24} atoms of silver weigh?

6) How many molecules are present in 2.3 grams of NH_4SO_2?

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MOLES, MOLECULES, & GRAMS WORKSHEET

Answers

1) How many molecules are present in 200 grams of CCl_4?

Molar mass of CCl_4 = 153.82 g/mol

153.82 grams of CCl_4 are present in 1 mole, i.e., 6.023×10^{23} molecules

200 grams of CCl_4 are present in 7.83×10^{23} molecules

2) How many molecules are present in 230 grams of $COCl_2$?

Molar mass of $COCl_2$ = 129.839 g/mol

230 grams of $COCl_2$ are present in 1.07×10^{24} molecules

3) How many molecules are there in 9.34 grams of LiCl?

Molar mass of LiCl = 42.394 g/mol

9.34 grams of LiCl are present in 1.32×10^{23} molecules

4) How many molecules are present in 24 grams of FeF_3?

Molar mass of FeF_3 = 112.84 g/mol

24 grams of FeF_3 are present in 1.28×10^{23} molecules

5) How much do 2.3×10^{24} atoms of silver weigh?

Molar mass of Ag = 108 g/mol

2.3×10^{24} atoms of silver weigh 412.42 grams

6) How many molecules are present in 2.3 grams of NH_4SO_2?

Molar mass of NH_4SO_2 = 82.1 g/mol

Number of molecules = $(2.3/82.1) \times 6.023 \times 10^{23}$ molecules = 1.687×10^{22} molecules