

Particle Conversion Worksheet

Answer the following questions.

1. How many molecules are in 0.5 moles of H_2 ?
2. How many moles are in 2.91×10^{22} atoms of He?
3. How many atoms are in 0.250 moles of Rb?
4. How many moles are in 8.30×10^{23} molecules of H_2O ?
5. How many moles are in 8.11×10^{20} molecules of CH_4 ?
6. How many moles are in 5.25×10^{25} atoms of Au?
7. How many atoms are in 1.50 moles of Hg?

Name : _____ Date : _____

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Answers

1. How many molecules are in 0.5 moles of H_2 ?

1 mole of H_2 has 6.023×10^{23} molecules
0.5 moles of H_2 has 3.011×10^{23} molecules

2. How many moles are in 2.91×10^{22} atoms of He?

6.023×10^{23} atoms of He represent 1 mole
 2.91×10^{22} atoms of He represent 0.0483 moles

3. How many atoms are in 0.250 moles of Rb?

1 mole of Rb represents 6.023×10^{23} atoms
0.25 moles of Rb represents 1.5×10^{23} atoms

4. How many moles are in 8.30×10^{23} molecules of H_2O ?

6.023×10^{23} molecules represent 1 mole of H_2O
 8.30×10^{23} molecules represent 1.38 moles of H_2O

5. How many moles are in 8.11×10^{20} molecules of CH_4 ?

6.023×10^{23} molecules represent 1 mole of CH_4
 8.11×10^{20} molecules represent 1.346×10^{-3} moles of CH_4

6. How many moles are in 5.25×10^{25} atoms of Au?

6.023×10^{23} atoms represent 1 mole of Au
 5.25×10^{25} atoms represent 87.16 moles of Au

7. How many atoms are in 1.50 moles of Hg?

1 mole of Hg represents 6.023×10^{23} atoms
1.5 moles of Hg represents 9.03×10^{23} atoms