Practice Questions for Unit Test on Avogadro’s Number, Moles, and Molar Mass

Part I. Determine the molar mass (g/mol) for the following elements:

Ca Xe K

Fe Au O

Part II. Calculate the molar mass (g/mol) for the following molecules/compounds:

NaCl H2O

Fe2O3 Na2O

Part III. Calculate the mass (g) of the following samples:

5 moles H2O

2.1 moles Na2O

Part IV. Calculate the number of moles in the following samples:

54.2 g NaCl

519.3 g Fe2O3

Part V. Calculate the number atoms or molecules in the following samples:

1.32 moles Si

7.29 mol CO2

712.4 g Au (note: this problem requires two conversions – refer to the chalk signature lab)

Part VI. Calculate the number of moles in 3.56 x 1029 atoms. Express your answer in proper scientific notation.