

## Chem11 Moles : Worksheet-80

- 1) In 1990 the world population was 5,500 million people. How many moles is this ?
- 2) There are about  $1.00 \times 10^{11}$  stars in the Milky Way. How many moles is this ?
- 3) Give the mass of one mole of the following :
  - a) Fe
  - b) Au
  - c) Mo
- 4) Calculate the number of moles in each of the following :
  - a) 36.0 g of carbon
  - b) 13.5 g of aluminum
  - c) 1170 g of Ba
- 5) Calculate the number of moles in each of the following :
  - a) 315 g of nitrogen atoms
  - b) 0.0049 g of oxygen molecules
- 6) Give the mass :
  - a) 81.3 mol Ar atoms
  - b)  $2.8 \times 10^5$  mol of Manganese atoms
  - c) 0.020 mol Pb atoms
  - d)  $8.5 \times 10^{-4}$  mol of Mg atoms
- 7) How many **atoms** are in :
  - a) 1.00 mole
  - b)  $3.5 \times 10^{-6}$  mol Hg atoms
  - c) 0.00074 mol Sr atoms
  - d) 5.5 mol S<sub>8</sub> molecules
- 8) How many **atoms** are in :
  - a) 7.0 moles of chromium atoms
  - b)  $1.1 \times 10^{-10}$  mol Cu
  - c) 3.0 moles of H<sub>2</sub>O
  - d) 5.5 moles CH<sub>4</sub>
- 9) How many **moles** of atoms are in :
  - a)  $9.03 \times 10^{24}$  atoms of H
  - b)  $1.20 \times 10^{23}$  atoms of Bi
  - c)  $1.00 \times 10^{15}$  molecules of Cl<sub>2</sub>
  - d) 100. atoms of Xe

10) Find the mass :

a)  $2.4 \times 10^{24}$  atoms of Al

b)  $6.02 \times 10^{12}$  atoms of V

c) 1 atom of Ca

d) 3400 atoms of Ca

Answers : 1)  $9.1 \times 10^{-15}$ , 2)  $1.66 \times 10^{-13}$ , 3)a) 55.8g, b) 197.0g, c) 95.9g, 4)a) 3.00, b) 0.500, c) 8.52, 5)a) 22.5mol, b)  $1.5 \times 10^{-4}$ , 6)a) 3250g, b)  $1.5 \times 10^7$ g, c) 4.1g, d)  $2.1 \times 10^{-2}$ g, 7)a)  $6.02 \times 10^{23}$ , b)  $2.1 \times 10^{18}$ , c)  $4.5 \times 10^{20}$ , d)  $2.6 \times 10^{25}$ , 8)a)  $4.2 \times 10^{24}$ , b)  $6.6 \times 10^{13}$ , c)  $5.4 \times 10^{24}$ , d)  $1.7 \times 10^{25}$ , 9)a)  $1.50 \times 10^1$ , b)  $1.99 \times 10^{-1}$ , c)  $3.32 \times 10^{-9}$ , d)  $1.66 \times 10^{-22}$ , 10)a)  $1.1 \times 10^2$ g, b)  $5.09 \times 10^{-10}$ g, c)  $6.66 \times 10^{-23}$ g, d)  $2.3 \times 10^{-19}$ g.