## The Mole

## Multiple Choice

Identify the choice that best completes the statemen or answers the question.


1. How do you find formula mass?
a. look on the periodic table
c. multiply the wavelength times the frequency
b. add the masses of each atom in the compound
d. weigh it on a scale

2. What is the unit that mass is measured in?
a. grams
c. moles
b. mile
d. particleIll. How many atoms are present in 179.0 g of iridium?
a. $\quad 5.606 \times 10^{23}$ atoms
b. $6.464 \times 10^{23}$ atoms
c. $\quad 1.078 \times 10^{26}$ atoms
d. $1.157 \times 10^{26}$ atoms

3. Which of these is about 2 moles?
a. 2.0 liter $\left(\mathrm{dm}^{3}\right)$ of $\mathrm{H}_{2}$
b. 4.0 grams of $\mathrm{H}_{2}$
c. $2.0 \times 10^{23}$ molecule of $\mathrm{H}_{2}$
d. 4.0 kilograms of $\mathrm{H}_{2}$
4. Helium is a noble gas which is very unreactive and highly stable. Approximately how many helium atoms would be found in 2.00 moles of helium gas'?
a. $1.20 \times 10^{24}$ atom
b. $6.02 \times 10^{23}$ atoms
c. $3.01 \times 10^{24}$ atom
d. 1 . $1 \times 10^{24}$ atoms

5. What is the mass in gram of one mole of sulfur dioxide $\left(\mathrm{SO}_{2}\right)$ ?
a. 48.1 g
b. 64.1 g
c. 80.1 g
d. 96.1 g

6. How many moles of bromine ga ( $\mathrm{Br}_{2}$ ) are in 37.7 grams?
a. 0.236
c. $3.01 \times$
d. 79.9
b. 0.472
e. none of the above

7. How many molecules are in 0.500 mole of $\mathrm{N}_{2} \mathrm{O}_{5}$ ?
a. $1.20 \times 10^{2}$ molecules
b. $\quad 3.01 \times 10^{23}$ molecules
c. $6.02 \times 10^{23}$ molecules
d. $3.01 \times 10^{24}$ molecule9. Students are given two samples of material. The first sample contains 1 mole of iron (Fe), and the second sample contains I mole of lithium ( Li ). Which of the following statements best describes how these samples compare to one another.
a. Sample 1 contains more atoms than sample 2 .
b. Sample 2 has a greater mass than sample 1 .
c. Both samples have the same mass when placed on a scale.
d. Each sample contains the same number of atoms.
8. What is the mass in grams of one mole of sulfur dioxide $\left(\mathrm{SO}_{2}\right)$ ?
a. 48.1 g
b. 64.1 g
c. 80.1 g
d. $\quad 96.1 \mathrm{~g}$
9. The number of molecules in 48.0 grams of oxygen gas $\left(\mathrm{O}_{2}\right)$ is -
a. $\quad 1.81 \times 10^{24}$
b. $\quad 1.20 \times 10^{24}$
c. $9.03 \times 10^{23}$
d. $\quad 6.02 \times 10^{23}$

10. Which of the following represents Avagadro's number?
a. $6.02 \times 10^{23}$
c. Atomic mass
b. $\quad 3.14$
d. Atomic number

11. What is the mass of one mole of $\mathrm{O}_{2}$ ?
a. 24 g
b. 28 g
c. 44 g
d. 56 g
