Understanding Moles Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Part A: In Column B, rank the quantities from Column A from smallest to largest in size amount

|  |  |  |
| --- | --- | --- |
| Column A0.5 mol20056,000,000,0006.02 X 1023DozenFour molesGrossPairReam |  | Column B1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 |

Part B: Multiple Choice

1. 12 is to dozen as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is to mole.
2. Gross c. 6.02 x 1023
3. Avogadro’s number d. # of particles
4. 6.02 x 1023 is to Avogadro’s number as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is to twelve.
5. 12 c. ream
6. Mole d. dozen
7. Which of the following counting units would be best appropriate for counting sheets of paper sold at a store?
8. Dozen c. mole
9. Gross d. ream
10. Which contains more atoms: a mole of silver atoms, a mole of copper atoms, or a mole of gold atoms?
11. A mole of copper atoms c. a mole of silver atoms
12. A mole of gold atoms d. they would all have same number of atoms

Part C: Convert moles to # of particles (SHOW YOUR WORK)

1. 4 dozen roses = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ individual roses
2. 0.25 mol of KNO3 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ particles of KNO3
3. 3 mol of water = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_H2O molecules
4. 2.24 mol of H2 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ H2 molecules
5. 4.5 mol of Zn = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Zn atoms

Part D: Convert # of particles to moles (SHOW YOUR WORK)

1. 1500 pieces of paper = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ reams
2. 3.25 x 1020 atoms of lead = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mol
3. 4.96 x 1024 molecules of glucose = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mol
4. 2.50 x 10²⁴ atoms of Hg = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mol
5. 8.32 x 1023 atoms of oxygen = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mol