1. What is the molar mass of Sr3(PO4)2?
   1. 182.59 g/mol
   2. **452.80 g/mol**
   3. 357.83 g/mol
   4. 420.80 g/mol
   5. 715.66 g/mol
2. Which statements are true about molar mass? Select any that apply.
   1. It is the mass in grams of one particle of a substance.
   2. **It is the mass in grams of one mole of a substance.**
   3. **It is used to convert between grams and moles.**
   4. It is used to convert between grams and volume.
   5. It can always be used to identify a substance.
3. What is the molar mass of a substance if one molecule has a mass of 4.659 x 10-23 g?
   1. 4.659 x 10-23 g
   2. 4.659 x 1023 g
   3. 7.737 x 10-47 g
   4. **2.806 x 101 g**
   5. 2.805 x 10-45 g
4. A 3.37 x 1022 molecule sample has a mass of 2.84 x 106 µg. What is the substance’s molar mass?
   1. **5.07 x 101 g/mol**
   2. 8.43 x 10-17 g/mol
   3. 5.07 x 107 g/mol
   4. 8.43 x 10-23 g/mol
   5. 9.57 x 1028 g/mol
5. What is the mass in grams of 0.625 moles of NaCl?
   1. 3.76 x 1023 g
   2. 93.50 g
   3. 1.07 x 10-2 g
   4. **36.5 g**
   5. 1.04 x 10-24 g
6. How many moles are in 125 g of CaO?
   1. 0.449 mol
   2. **2.23 mol**
   3. 7.01 x 103 mol
   4. 1.34 x 1024 mol
   5. 2.08 x 10-22 mol
7. One mole is equal to how many parts of a substance?
   1. 12.001
   2. 1.008
   3. **6.022 x 1023**
   4. 6.022 x 10-23
   5. It depends on the substance.
8. How many molecules are in 0.155 mol of KCl?
   1. 2.57 x 1021 molecules
   2. 2.57 x 10-25 molecules
   3. 1.16 x 101 molecules
   4. 9.33 x 10-24 molecules
   5. **9.33 x 1022 molecules**
9. How many molecules are in 12.6 grams of SiCl4?
   1. **4.47 x 1022 molecules**
   2. 1.28 x 1027 molecules
   3. 1.23 x 10-25 molecules
   4. 3.55 x 10-21 molecules
   5. 7.59 x 1024 molecules
10. How many total atoms are in 22.5 grams of SO3?
    1. 0.281 atoms
    2. 1.69 x 1023 atoms
    3. **6.77 x 1023 atoms**
    4. 80.0 atoms
    5. 1.36 x 1025 atoms
11. Which sample contains the largest number of **atoms**?
    1. 0.25 mol PH3
    2. 1.00 mol He
    3. 0.50 mol Cl2
    4. **They all contain the same number of atoms.**
12. You have 50.1 g of an unknown substance A and 35.0 g of chlorine gas. Substance A contains 1.5 times as many molecules as the chlorine gas. What is the identity of A?
    1. **BF3**
    2. SO3
    3. N2
    4. CO2
    5. None of the above
13. Which has a smaller mass, 4 moles of Fe atoms, or 4 moles of Co atoms?
    1. **4 moles Fe atoms**
    2. 4 moles of Co atoms
    3. They have the same mass because the number of atoms is equivalent.
    4. Not enough information was given.
14. How many grams of potassium are in 35.5 grams of KBr (MM = 119.00 g/mol)?
    1. 35.5 g
    2. 17.8 g
    3. 0.298 g
    4. 1.80 x 1023 g
    5. **11.7 g**
15. A student goes to the lab and finds a container of an organic compound, C14H10, which contains 6.17 × 1022 molecules of the substance. If C14H10 has a density of 1.25 g/mL and a molar mass of 178.24 g/mol, what is the volume (in mL) of C14H10?
    1. 8.80 x 1024 mL
    2. 18.3 mL
    3. 143 mL
    4. **14.6 mL**
    5. 22.8 mL