

Honors Chemistry: Mole Podcasts 3-4 Problem Set- Molar Mass and Mole Conversions

Directions: Find the molar mass of the following compounds (Podcast Mole #4): Show work and include units.

1. $W_3(PO_3)_5$
2. $Fe(C_2H_3O_2)_2$
3. Copper(I) sulfide
4. Copper(II) sulfite

Directions: Answer the following questions using the method shown in Podcasts Mole #3-4. Set-up all problems using the factor-label method of dimensional analysis and show all your work and units.

5. How many atoms are in 1.5 moles of neon?
6. How many moles of SF_6 are there in 4,595,000,000,000,000 molecules of SF_6 ?
7. Calculate the number of moles in 5.45×10^{25} atoms of Zn.
8. What is the mass of 7.50 moles of sulfur dioxide?
9. How many moles are there in 250.0 grams of sodium phosphate?
10. How many grams of potassium sulfate are there in 25.3 moles?
11. Calculate the number of grams in 3.25-mol of silver nitrate.
12. What is the volume of 0.38 moles of any gas at STP?
13. Calculate the number of moles in 32.2-L of ammonia (NH_3).
14. What is the mass of 51 liters of oxygen gas?