

Name _____ Date _____ Period _____

Mole Conversion Practice

Use your 'Mole Road Map' to perform each of the following conversions.

1. How many atoms of C are in 5.778 moles of C? (*mole → particles*)

2. Calculate the number of moles of S in 2.78×10^{18} atoms of S. (*particles → mole*)

3. Calculate the mass of 12.2 mol of carbon tetrachloride, CCl_4 . (*mole → grams*)

4. How many moles of H_2O are in 450.0 g of H_2O ? (*grams → mole*)

5. What volume in liters would 23.5 moles of CO_2 gas occupy? (*mole → liters*)

6. Find the mass of 8.90×10^{45} molecules of water? (*particles → mole → grams*)

7. If a sample of calcium has a mass of 13.3 grams, how many atoms of calcium are present? (*grams* → *mole* → *particles*)

8. Calculate the volume in liters that 2.3 g of NO₂ would occupy. (*grams* → *mole* → *liters*)

9. How much would 46.8 L of N₂O₅ weigh in grams? (*liters* → *mole* → *grams*)

10. If a steel gas tank can hold 52.0 L of hydrogen gas, how many molecules of H₂ are in the canister? (*liters* → *mole* → *molecules*)