

Work each of the following problems. SHOW ALL WORK.

1. How many grams are contained in 0.54 moles of calcium?
2. Convert 2.54 moles magnesium carbonate to formula units.
3. What is the mass of  $3.1 \times 10^{20}$  molecules of carbon monoxide?
4. How many formula units are contained in 0.67 g  $\text{CaO}$ ?
5. The number of nitrogen molecules in 1.2 moles of  $\text{N}_2$  is \_\_\_\_\_.
6.  $1.23 \times 10^{28}$  f.u. of  $\text{Al}_2\text{O}_3$  = \_\_\_\_\_ grams  $\text{Al}_2\text{O}_3$

7. Convert 3.1 moles of water to grams of water.
8. What is the mass in grams of  $4.6 \times 10^{21}$  molecules of carbon tetrabromide?
9.  $3.2 \times 10^{23}$  f.u. NaCl = \_\_\_\_\_ grams NaCl
10. How many moles of silver is equal to 0.31 grams of silver?
11. The mass of 2.60 moles of  $\text{SO}_2$  is \_\_\_\_\_.

**BONUS**

How many atoms of oxygen are contained in 12.3 kilograms of carbon dioxide?