

## MOLE PROBLEMS

1. How many moles of copper are in 6,000,000 atoms of copper?
2. How many atoms are in 5 moles of silver?
3. How many atoms of gold are in 1 gram of gold?
4. How many moles of sulfur are in 53.7 grams of sulfur?
5. How many grams is a sample containing  $2.71 \times 10^{24}$  atoms of iron?
6. How many moles of lithium (Li) are in 1 mole of lithium hydride (LiH)?
7. How many moles of oxygen (O) are in 1 mole of calcium carbonate ( $\text{CaCO}_3$ )?
8. How many atoms of hydrogen are in 1 mole of water ( $\text{H}_2\text{O}$ )?
9. How many atoms of oxygen are in 2 moles of  $\text{O}_2$ ?
10. How many moles of oxygen are in  $2.71 \times 10^{25}$  molecules of carbon dioxide ( $\text{CO}_2$ )?

### Answers

1.  $9.96 \times 10^{-18}$  moles of copper
2.  $3.01 \times 10^{24}$  atoms of silver
3.  $3.06 \times 10^{21}$  atoms of gold
4. 1.67 moles of sulfur
5. 251.33 grams of iron.
6. 1 mole of lithium
7. 3 moles of oxygen
8.  $1.20 \times 10^{24}$  atoms of hydrogen
9.  $2.41 \times 10^{24}$  atoms of oxygen
10. 90 moles