Name ANSWER KEY

STOICHIOMETRY PROBLEMS

Moles of Elements—Two-Step Problems (continued)

Exercises

Begin each problem by sketching a diagram that outlines the steps in the solution to the problem.

Convert to mass in grams.

1. 6.02×10^{23} atoms Ca
2. 1.204×10^{23} atoms Bi
3. 3.01×10^{23} atoms Ni
4. 1000 atoms Al
5. 1 atom Na

Convert to number of atoms.

6. 540 grams Al
7. 294 grams Au
8. 6.35 grams Cu
9. 2000 grams Mg
10. 1.00 gram Li

1. 40.1 g Ca
2. 41.78 g Bi
3. 29.4 g Ni
4. 4×10^{-20} g Al
5. 9×10^{-23} g Na

6. 1.21×10^{25} atoms Al
7. 8.99×10^{23} atoms Au
8. 6.02×10^{22} atoms Cu
9. 5×10^{25} atoms Mg
10. 8.67×10^{22} atoms Li

Name _____

STOICHIOMETRY PROBLEMS

Moles of Compounds—Two-Step Problems (continued)

Exercises

Begin each problem by sketching a diagram that outlines the steps in the solution to the problem.

Convert to number of molecules.

1. 72 grams HCl
2. 9.0 grams H_2O
3. 22 grams CO_2
4. 500 grams NO
5. 1.00 gram CCl_4

1. 1.2×10^{24} molecules HCl
2. 3.0×10^{23} molecules H_2O
3. 3.0×10^{23} molecules CO_2
4. 1.00×10^{25} molecules NO
5. 3.91×10^{21} molecules CCl_4

Convert to mass in grams.

6. 6.02×10^{23} molecules Cl_2
7. 3.01×10^{23} molecules SO_2
8. 1.81×10^{24} molecules CO_2
9. 1000 molecules H_2S
10. 1 molecule H_2O

6. 71.0 g Cl_2
7. 32.0 g SO_2
8. 132 g CO_2
9. 6×10^{-20} g H_2S
10. 3×10^{-23} g H_2O