

REVIEW

3

SECTION 3.4

Using Moles to Count Atoms

1. **Define** a *mole*.

2. **Identify** which of the following statements are correct:

_____ a. 1 mol of titanium, Ti, is 47.88 g

_____ b. 1 mol of strontium, Sr, is 40.08 g

_____ c. 2 mol of carbon, C, are 24.02 g

_____ d. 1 mol of mercury, Hg, is 200.6 g

3. **Explain** why the mole is used as a counting unit for atoms.

4. **Determine** the molar mass of each of the following elements:

_____ a. calcium, Ca

_____ b. cobalt, Co

_____ c. sulfur, S

_____ d. oxygen, O

5. **Outline** the steps required to find the mass in grams of an element from a given amount of the element in moles.

6. **Determine** the mass in grams of each of the following:

_____ a. 0.60 mol of neon, Ne

_____ b. 5.01 mol of xenon, Xe

_____ c. 1.9 mol of selenium, Se

_____ d. 3.3 mol of gold, Au

7. **Determine** the amount in moles of each of the following:

_____ a. 0.35 g of hydrogen, H

_____ b. 405 g of boron, B

_____ c. 26 g of chromium, Cr

_____ d. 8.5 g of sulfur, S