

Mole Conversions

Review

Significant Figures

1. How many significant figures are in the following measurements?

a. 0.05370 m

b. 8765 km

c. 40.007 g

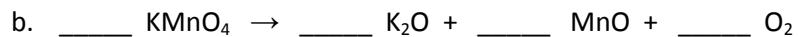
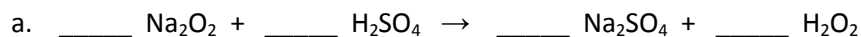
d. 1430 g

e. 30.0 m

f. 6.02×10^{23} molecules

Balancing Equations

2. Balance the following equations.



Mole Conversions

1. How many moles are 2.80×10^{24} atoms of silicon?

2. How many atoms are 0.360 mol of silver?

3. What is the molar mass of the following oxygen-containing compounds?

a. ammonium nitrate, NH_4NO_3 , a fertilizer

b. acetylsalicylic acid, $\text{C}_9\text{H}_8\text{O}_4$, aspirin

c. ozone, O_3 , a disinfectant

d. nitroglycerine, $\text{C}_3\text{H}_5(\text{NO}_3)_3$, an explosive

4. How many molecules are in 2.14 mol CO?

5. How many moles are contained in 4.65×10^{24} molecules NO_2 ?

6. A typical zipper has 8 teeth per centimeter. If you had a zipper with Avogadro's number of teeth, how long would it be in km?

7. What is the mass of 1 mol of each of these monatomic elements?

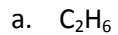
a. sodium

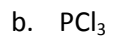
b. selenium

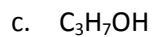
c. lead

8. List the steps you would take to calculate the molar mass of any compound?

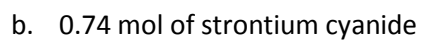
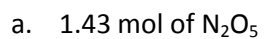
9. Find the gram molecular mass (molar mass) of each compound.







10. Calculate the number of grams in the following quantities.



11. Calculate the number of moles in the following quantities.

