

Problem-Solving Session (Chapters 2 and 3.1-3.6)

Atomic Weight Calculations

1. "Im" is an imaginary element which has 2 isotopes, ^{30}Im (mass = 30.013 amu; abundance 20.78%) and ^{31}Im (mass = 31.008 amu; abundance 79.22%). Calculate the average atomic mass (atomic weight) of Im.

2. Boron has two naturally occurring isotopes, boron-10 with a mass of 10.0129 amu and boron-11 with a mass of 11.00931 amu. The average atomic mass of boron is 10.811. What is the percent abundance of the boron-10 isotope?

Write the formula for the following compounds.

1. sodium nitrate

2. aluminum hydroxide

3. magnesium acetate

4. potassium bicarbonate

5. iron (III) cyanide

6. silver sulfate

7. calcium phosphate

8. ammonium sulfite

9. magnesium dihydrogen phosphate

10. potassium permanganate

Write the correct name of the following acids.

1. HCl
2. H₂SO₄
3. HNO₃
4. H₂SO₃
5. HNO₂
6. HF
7. HClO₄
8. HClO₃
9. HI
10. HCN

Write the name of the following compounds.

1. KCN
2. NH₄NO₂
3. Ca(OH)₂
4. Na₃P
5. MgS
6. Cu₂SO₄
7. SO₃
8. N₂O₃
9. AgCl
10. Al₂S₃