21) A component of protein called serine has an approximate molar mass of 100. g/mole. If the percent composition is as follows, what is the empirical and molecular formula of serine?

C = 34.95 % H= 6.844 % O = 46.56 % N= 13.59 %

C $\frac{34.95g}{12.01}$ = 2.91 /.970 = ③

H $\frac{6.844g}{1.01}$ = 6.776 /.970 = ⑦

O $\frac{46.56g}{16.00}$ = 2.91 /.970 = ③

Percent composition

N $\frac{13.59g}{14.01}$ = .970 / .970 ①

Empirical Formula
Answer = $C_3H_7O_3N$

12.01×3 + 1.01×7 + 16×3 + 14.01 = 105

~ $\frac{100}{105}$ = 1

Is also the molecular formula

22) Calculate the % composition of the following compound:
Al₂(SO₄)₃   [$Al_2(SO_4)_3$]
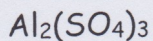
Find Molar Mass

26.98 × 2 =
32.07 × 3 =   } 342.17
16.00 × 12 =

% Al = $\frac{53.96}{342.17}$ × 100   15.77%

% S = $\frac{96.21}{342.17}$ × 100   28.12%

% O = $\frac{192}{342.17}$ × 100   56.11%