PROBLEM 23
An empirical formula only gives the relative ratios of elements in a compound.

The molecular formula gives the exact number of elements in a molecule of that compound.

A structural formula reveals not only which atoms are present in a molecule, it also tells you how they are connected.

For example consider hydrogen peroxide.

Empirical Formula $\rightarrow$ OH
Molecular Formula $\rightarrow$ $\text{O}_2\text{H}_2$
Structural Formula $\rightarrow$ H-O-O-H

PROBLEM 25
a) 6    b) $2 \times 3 = 6$    c) $3 \times 4 = 12$

PROBLEM 32
a) $+2$  b) $+3$  c) $+3$  d) $-2$  e) $-1$

B) (Ba)  (La)  (Ga)  (S)  (Br)

PROBLEM 33
a) GaF$_3$ $\rightarrow$ Gallium (III) Fluoride
b) LiH $\rightarrow$ Lithium Hydride
c) AlI$_3$ $\rightarrow$ Aluminum Iodide
d) K$_2$S $\rightarrow$ Potassium Sulfide

PROBLEM 36
a) Mg(NO$_3$)$_2$  b) Na$_2$CO$_3$  c) Ba(OH)$_2$

d) (NH$_4$)$_3$PO$_4$  e) Hg$_2$(ClO$_3$)$_2$

PROBLEM 38
a) Ionic  b) Ionic  c) Molecular  d) Ionic
e) Ionic  f) Ionic  g) Ionic  h) Ionic