# Review Packet Answer Key

## Chemical Naming, Formulas, Equations, and Stoichiometry

## (Topics 2 &3 in your review book)

### Equations & Stoichiometry Practice Questions

1. 4
2. 4
3. 4
4. 2
5. 2
6. 2
7. 2
8. 3
9. 2
10. 3
11. 1
12. 3
13. 3
14. 4

### Formulas, Equations & Stoichiometry Review

1. 2
2. 3
3. 3
4. 1
5. 1
6. 4
7. 2
8. 4
9. 3
10. 1
11. 4
12. 3
13. 2
14. 4
15. 2
16. 4
17. 3
18. 2

19. Percent Error = [(21.4-20.9)/20.9] x 100% = **2.4%**
20. The empirical formula of $C_8H_{18}$ is **$C_4H_9$**
21. Na: 23 x 1 = 23
    C: 12 x 1 = 12
    O: 16 x 3 = 48
    106 grams/mole

    %C = 12/106 x 100% = **11.3%**

22. The reaction is **endothermic** because "heat" is written on the reactants side.
23. To do this question, use the mole ratio between the two substances:

    $NaHCO_3$: $CO_2$
    2: 1
    7: x  $2x = 7$  **x = 3.5 moles of $CO_2$**

24. **3** S + **2** $KClO_3$ → **3** $SO_2$ + **2** KCl + energy
25. The reaction is a **synthesis** reaction.
26. Fe: 55.8 x 2 = 111.6
    O: 16 x 3 = 48.0
    **159.6 grams/mole**

27. The IUPAC (systematic) name for this compound is **Iron III oxide**. The roman numeral 3 is needed because Iron ions can be charged +2 or +3, and is chosen in this case because the formula includes iron with the +3 charge.
28. moles = 19 / 95 = **0.20 moles**
29. The type of ORGANIC reaction is **substitution.**
30. One advantage of using ozone is that it is **safer to use.** Another is that it is more **environmentally friendly.**
31. **Three** significant figures are shown.
32. **%** water mass = ( 0.76 g of water/ 2.13 g of hydrate) x 100% = 35.7%
33. The crucible containing the sample must be heated until a constant mass is achieved in order **to insure that all the water has been driven out of the hydrate**