Genetics Note Guide

1. What is the genetic term for “physical appearance?”
2. What are some examples of phenotypes?
3. What is a genotype?
4. What describes how some traits are passed from parents to their children?
5. What are small sections of DNA that are coded for specific traits?
6. Where are genes found?
7. How many chromosomes does a human have?
8. Allele –
9. Genes –
10. Dominant –
11. Recessive –
12. Homozygous –
13. Heterozygous –
14. Genotype –
15. Phenotype –
16. What is the genotype (according to this example) for freckles?
17. What is the genotype for no freckles?
18. What is the genotype for red hair?
19. Mom has freckles, dad has none. What are their genotypes if they are both homozygous?
20. Cross the two parents using a Punnett Square. What are the phenotypes of the offspring?
21. Mom and dad both have freckles. What are their genotypes if they are both heterozygous?
22. Cross the two parents using a Punnett Square. What are the phenotypes of the offspring?  
    What is the probability that their children will have freckles? \_\_\_\_\_  
    What is the probability that their children will not have freckles? \_\_\_\_\_
23. Harry has dark/brown hair like his father, but his mom had red hair. Using the genotypes of **rr**, **Rr**, and **RR**, what genotypes does each of the Potters have?

The phenotypes of the Potters are:  
James Potter (dad)—dark/brown hair \_\_\_\_  
Lily Potter (mom)—red hair \_\_\_\_\_

Harry Potter—dark/brown hair \_\_\_\_\_

1. Harry marries Ginny, who has red hair. What are possible genotypes of their children’s hair colors? Draw a Punnett Square to figure it out.  
   What is the probability that their children will have red hair? \_\_\_\_\_  
   What is the probability that their children will have brown hair? \_\_\_\_\_
2. What are the examples for Mendelian traits? Draw the table.