Genetics Study Guide

Complete the questions and Punnett Squares below. You may use your notes, your text book or past lectures, but do not use the internet. Once you have finished turn it into Mrs. G's red in box.

1. **A section of DNA that codes for a trait is called a(n):**
   - **a.) Chromosome**
   - **b.) Gene**
   - **c.) Allele**
   - **d.) Mutation**

2. **A version of a gene (such as blue eyes) is called a(n):**
   - **a.) Allele**
   - **b.) DNA**
   - **c.) Gene**
   - **d.) Sex cell**

3. **We have how many copies of each Gene?**
   - **a.) 1**
   - **b.) 3**
   - **c.) 2**
   - **d.) 3,000,000,000,000,0009**

4. **We get our genes from:**
   - **a.) both mom and dad**
   - **b.) just mom**
   - **c.) just dad**
   - **d.) no one, they just magically appear**

5. **Fill in the chart with either the matching verbal genotype or the allele combinations. Each may appear more than once.**

Allele Combination	Verbal Genotype
AA	
	Homozygous Recessive
Aa	
	Homozygous Dominant
aa	

6. **If Green skin is Dominant (G) and purple skin is recessive (g) write out the resulting phenotypes for each of the given Genotypes.**

Genotype	Phenotype
Homozygous Dominant	
Heterozygous	
Homozygous Recessive	

7. **What was one of Mendel's major contributions to science?**

8. **If I have one allele that codes for blue eyes and one allele that codes for brown eyes, but my phenotype is blue eyes which allele is dominant and which is recessive?**

9. **If you have one parent that is homozygous recessive and one parent that is heterozygous what does the Punnett square look like? (you may use any letter)**

10. **Using the Punnett square you constructed above, if the Dominant allele codes for one eye and the recessive allele codes for eleven eyes what percentage of the offspring will end up with one eye?**

11. **Give a real life example of how the study of genetics could be used.**

12. **Explain the phases meiosis and how it allows genes to be passed on from parent to child.**