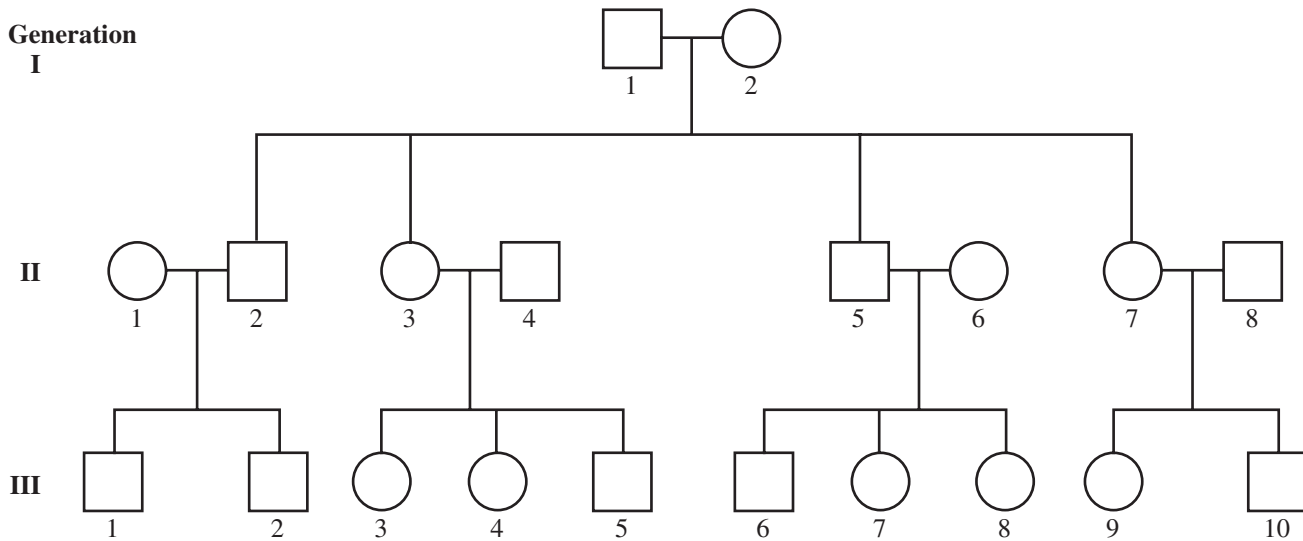Name_____

Eye Color and Polygenic Inheritance Worksheet

Data Table and Observations

Generation
 I

Post-Lab Questions and Calculations

1. Why is it necessary to return the bingo chips to the male and female bags after each draw?

2. Look at the phylogenetic tree in the data table. How do the eye colors of the offspring in Generation III compare to that of their parents in Generation II?

3. In humans, tall parents tend to have tall children and short parents tend to have short children. However, the average adult height in humans varies greatly within a population. Why is this so?

4. If two heterozygous individuals AaBbCc are crossed with each other, what is the probability they will produce heterozygous offspring AaBbCc? Explain. ***Hint:*** Figure out the probability of inheriting each gene and multiply those three probabilities together.

5. Mendel's Law of Independent Assortment states that allele pairs separate independently during the formation of gametes. How is it possible for an offspring to have darker- or lighter-shaded eyes than either of his or her parents?