Incomplete Dominance and Codominance Worksheet

Name _____ Date: _____

1. In humans, hair type is determined by incomplete dominance. Some people have curly hair (CC), some people have straight hair (SS), and heterozygotes have wavy hair (CS). What would occur if a person with wavy hair had a baby with a person with straight hair? Draw the Punnett square and identify the genotypes and phenotypes of their offspring.

2. If two people with wavy hair have a baby together, what is the likelihood that they'll have a curly haired baby? A straight-haired baby?

3. Sickle cell anemia is a trait that exhibits codominance. A person with an AA genotype does not have sickle cell anemia, and a person with an SS genotype has full sickle cell anemia. A person with an AS genotype will have some sickle-cells, though s/he might show minimal or no symptoms (a "carrier").

   Englebert is a carrier for sickle-cell anemia (shows minimal symptoms), and his wife, Gwendoline, does not have it. What are the chances that Engelbert and Gwendoline will have a child with ANY sickle-shaped blood cells? Show your work!

4. Type A and Type B blood are codominant to each other. They are both dominant over Type O blood. Draw a Punnett square showing all the possible blood types for the offspring produced by a type "O" mother and an a Type "AB" father

5. Mrs. Clink is type "A" and Mr. Clink is type "O." They have three children named Matthew, Mark, and Luke. Mark is type "O," Matthew is type "A," and Luke is type "AB." Based on this information:
    a. Which child can NOT be the genetic offspring of these parents?
    b. Mr. Clink must have the genotype _____
    c. Mrs. Clink must have the genotype _____ because _____
    d. has blood type _____

6. In a species of birds, incomplete dominance between alleles for black (B) and white (W) feathers is observed. Heterozygotes are blue. If two blue birds are crossed, what will be the possible genotypes and phenotypes of the offspring?