Incomplete and Codominance Worksheet   Name_____

1. Explain the difference between incomplete dominance and codominance:

Incomplete Dominance
In snapdragons, flower color is controlled by incomplete dominance. The red (RR) and white (WW) and heterozygous genotype is expressed as pink (RW).

2. Predict the offspring when two pink flowers are crossed. What is the chance of producing:
a. A pink-flowered plant? _____

b. A red flowered plant? _____

c. A white flowered plant? _____

3. A pink-flowered plant is crossed with a white-flowered plant. What is the probability of producing:

 a. A pink-flowered plant? _____

b. A red flowered plant? _____

c. A white flowered plant? _____

d. What cross will produce the most pink-flowered plants? Show a punnett square to support your answer.

4. A homozygous black bird (BB) is crossed with a homozygous white bird (WW). The offspring are all bluish-gray (BW). Cross a black bird and a bluish gray bird. What are the percent chances of each phenotype?

5. What are the results if a white individual is crossed with a bluish-gray individual? (SHOW YOUR WORK)

Codominance

In shorthorn cattle, when a red bull (RR) is crossed with a white cow (WW), all the offspring are roan (RW).

6. Cross a roan bull and a roan cow. What phenotypes and percentages would you get?

7. What phenotypes would you expect from a cross between a red bull and a white cow?

8. In some chickens, the gene for feather color is controlled by codominance. The allele for black is B and the allele for white is W. The heterozygous phenotype is known as erminette (BW).

a. What is the genotype for black chickens? _____

b. What is the genotype for white chickens? _____

c. What is the genotype for erminette chickens? _____

9. If two erminette chickens were crossed, what is the probability that:

a. They would have a black chick? _____%

b. They would have a white chick? _____%

10. A black chicken and a white chicken are crossed. What is the probability that they will have:

a. An erminette chick? _____%

b. A black chick? _____%

c. A white chick? _____%