**Non-Mendelian Inheritance- Incomplete and Codominance**

**Complete the Punnett Squares below. Show your work! Put a Box around your answer😊**

1. In northeast Kansas there is a creature know as a wildcat. It comes in three colors, blue, red, and purple. This trait is controlled by a single [locus](http://www.ksu.edu/biology/pob/genetics/defin.htm#loc) gene with incomplete dominance. A [homozygous](http://www.ksu.edu/biology/pob/genetics/defin.htm#hom) (BB) individual is blue, a homozygous (RR) individual is red, and a [heterozygous](http://www.ksu.edu/biology/pob/genetics/defin.htm#het) (BR) individual is purple. What would be the [genotypes](http://www.ksu.edu/biology/pob/genetics/defin.htm#gen) and [phenotypes](http://www.ksu.edu/biology/pob/genetics/defin.htm#phen) of the offspring if a blue wildcat were crossed with a red one?
2. In snapdragons, flower color is controlled by incomplete dominance. The two alleles are red (R) and white (W). The heterozygous genotype is expressed as pink.

a. What is the phenotype of a plant with the genotype RR? \_\_\_\_\_\_\_\_\_\_\_

b. What is the phenotype of a plant with the genotype RW? \_\_\_\_\_\_\_\_\_\_\_

c. What is the phenotype of a plant with the genotype WW? \_\_\_\_\_\_\_\_\_\_\_

A pink-flowered plant is crossed with a white-flowered plant.

What is the probability of producing a pink-flowered plant? \_\_\_\_\_\_\_\_\_\_\_%

1. A common phenotype used in questions about **codominance** is roan fur in cattle.  Cattle can be red(RR = all red hairs), white (WW = all white hairs), or roan (RW = red & white hairs **together** ).  A good example of codominance.  What would be the **phenotypic ratio** of a cross between a roan cow and a red cow?
2. 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 ( a speckled chicken😊)

a. What is the genotype for black chickens? \_\_\_\_

b. What is the genotype for white chickens? \_\_\_\_

c. What is the genotype for erminette chickens? \_\_\_\_

d. Cross a white chicken with a speckled chicken. What is the genotypic ratio?