Name: _____

Monohybrid Cross Problems

1. A homozygous tall plant (TT) is crossed with a heterozygous plant (Tt).
   a. What are the allele combinations in the gametes of the homozygous plant? _____
   b. Heterozygous plant? _____
   c. What are the genotypes and phenotypes of the offspring? Draw a Punnett square.

2. A homozygous red flowered plant (RR) is crossed with a homozygous white plant (rr).
   a. What are the allele combinations in the gametes of the red flowered plant? _____
   b. White flowered plant? _____
   c. What are the genotypes and phenotypes of the offspring? Draw a Punnett square.

3. A man with hitchhiker's thumb (Hh) and his wife who also has hitchhiker's thumb (Hh) are expecting a child.
   a. What are the allele combinations in the man's gametes? _____
   b. Woman's gametes? _____
   c. What is the probability that the child will also have hitchhiker's thumb? Draw a Punnett square.

4. A dog with black fur (BB) is crossed with a dog who is heterozygous for black fur (Bb).
   a. What are the allele combinations in the BB dog's gametes? _____
   b. Bb dog's gametes? _____
   c. What is the probability that the offspring will have white fur (bb)? Draw a Punnett square.

5. A woman with a widow's peak (AA) marries a man without a widow's peak (aa).
   a. What are the allele combinations in the woman's gametes? _____
   b. Man's gametes? _____
   c. What are the genotypes and phenotypes of the offspring? Draw a Punnett square.