***Trihybrid Crosses***

In guinea pigs, black hair (B) is dominant over white (b), rough coat texture (R) is dominant over smooth (r), and short hair (S) is dominant over long hair (s). Assuming these genes are on separate chromosomes, draw the Punnett square for a cross between a guinea pig that is HETERZYGOUS for each trait (black, rough and short hair) and a guinea pig with white, smooth, long-hair characteristics.

Hint: First make a list of the possible gametes, making sure each has exactly *one* copy of *each* of the genes (**one allele for each gene**).

Male parent genotype: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Female parent genotype: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Offspring Genotypes, Phenotypes and Probabilities:**

Draw a Punnett square for 2 parents where the female one contains the following genetic information: HOMOZYGOUS black, HETEROZYGOUS rough and HOMOZYGOUS long hair and a male parent with the following genetic information: HETEROZYGOUS black, HOMOZYGOUS rough, HETEROZYGOUS short hair.

Make a list of possible genotypes, long with a description of the phenotypes and probabilities of each.

Male parent genotype: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Female parent genotype: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Offspring Genotypes, Phenotypes and Probabilities:**