Bio 122 Study Guide 2

Objectives
1. Understand why specific phenotypic ratios result from a dihybrid and a test cross.
2. Define the rule of independent assortment.
3. Know when to apply the rule of addition versus the rule of multiplication when calculating combined probabilities to solve genetics problems.

Terms
- parental
- Homologous chromosome
- recombinant
- Independent assortment
- Dihybrid cross
- Test cross
- probability
- Rule of multiplication
- Rule of addition

Questions
1. How did Mendel study the inheritance of more than one trait at once?
2. If you perform a cross between pure breeding lines that differ with respect to two traits, how many kinds of gametes can the dihybrid F1 offspring make?
3. How many phenotypes are possible when you self cross the F1 dihybrid offspring? When you test cross them?
4. Which rule of probability can you use to calculate the proportion of F2 offspring of a hybrid cross that would possess the recessive homozygote?
5. Which rules can you use to determine the proportion of offspring of the hybrid cross that possess the dominant phenotype?