Genetics Problems Practice

Name _____ Pr. ____

Multiple Alleles

Multiple Alleles means…

Example Problem:

Practice Problems:

Some human traits are controlled by a single gene pair that has more than two alleles. Such a gene is said to have multiple alleles – three or more forms of a gene that code for a single trait. You can think of multiple alleles as being flavors of pudding. Pudding usually comes in more flavors that just chocolate and vanilla!

Even though a gene may have multiple alleles, a person can carry only two of those alleles because chromosomes exist in pairs. Each chromosome in a pair carries only one allele for each gene.

Remember that there are three alleles for blood type: A, B, and O.

1. A woman with type A blood has a child with a man with type B blood. What are the possible genotypes for the parents?

2. If both parents from the last problem are heterozygous for their blood types, what are the possible genotypes and phenotypes for their child?

3. Two people with type B blood, one homozygous for the trait, one heterozygous, have a child. What is the likelihood of their child being homozygous for type B blood?

4. What is the probability of a woman with type AB and a man with Type A having a child with type O blood? Show your work.

5. Jill has type O blood. She has two older brothers, who tease her like crazy, with types A and B. Determine the genotypes of her parents with respect to this trait.

6. A test was done to determine the biological father of a child. The child's blood type is A and the mother's is B. Dad #1 has a blood type of O. Dad #2 has blood type AB. Which dad is the biological father? Show your work.