

**SEX-LINKED INHERITANCE**

5. **Normal vision in humans is dominant to color-blindness and the alleles are on the “X” chromosome. A normal man, whose father was color-blind, marries a color-blind woman. What would be the chance of their sons and daughters being color-blind?**
  
6. **A boy, whose parents and grandparents had normal vision, is color-blind. Give the genotype for his mother and his maternal grandparents.**
  
7. **A brown-eyed man whose mother was color-blind and whose father had blue eyes is engaged to marry a woman whose color-blind mother had blue eyes and whose normal visioned father had blue eyes. What is the genotype of the young gentlemen? Of his fiancée? If they marry and have a family, what are the chances of having: a brown-eyed normal-visioned child? A blue-eyed color-blind? A brown-eyed normal-visioned daughter? A blue-eyed color-blind son?**

**ADDITIONAL PROBLEMS**

8. **In a man hemophilia is a recessive sex-linked character. If a normal woman married a normal man and one-half of their sons were hemophiliacs, what would be the genotypes of all persons involved?**
  
9. **In humans, albinism (a) is recessive to normal (A) pigmentation. If a normal appearing woman marries an albino man and their first child is an albino, what is the genotype of the mother? If this woman married a normal appearing man, could they have any albino children? Explain your answer. An albino man married a normal woman. They have nine children, all normal. What are the probable genotypes of the parents and their children? Two normally pigmented parents have an albino child. If they have another child, what are the chances that it will be an albino?**
  
10. **In horses, black is dependent upon a dominant allele (B) and chestnut upon its recessive (b). The trotting gait (T) is dominant to the allele (t) which determines the pacing gait. These genes are on different chromosomes. If a homozygous black pacer is mated to a homozygous chestnut trotter, what will the F<sub>1</sub> generation be like? What will be the result when F<sub>1</sub> individuals are crossed? Show your work and derive the genotype and phenotype ratios.**