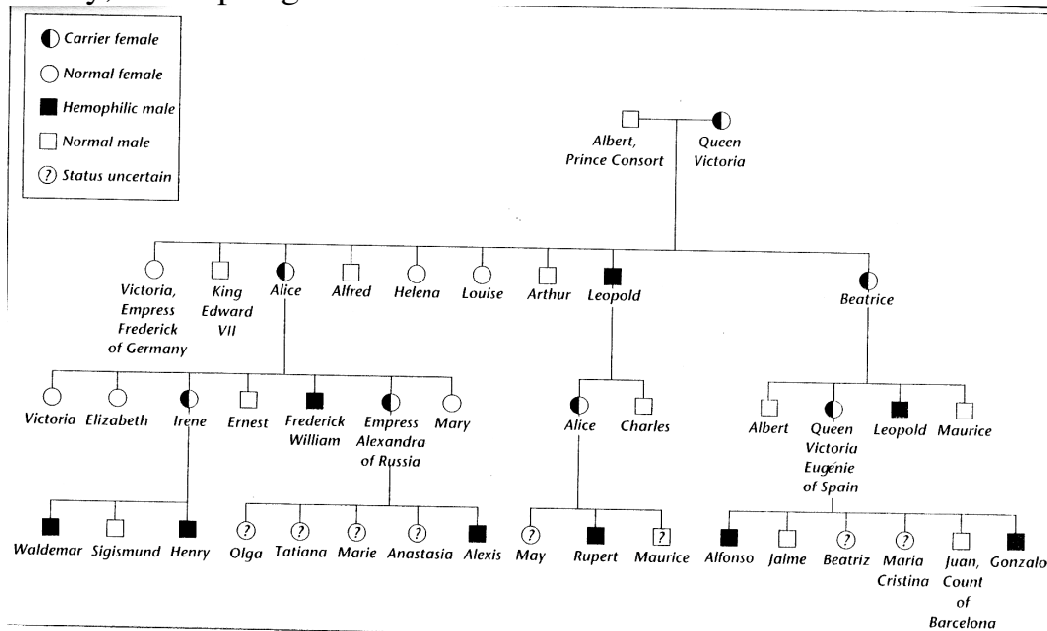


Name _____ Period _____

SECTION 4-1B Sex linked Pedigree

The pedigree of Queen Victoria of England shown below is often used as an example of sex-linked inheritance. Victoria was a carrier of hemophilia, a sex-linked disorder that is controlled by a recessive allele. The blood of a person with hemophilia clots very slowly or not at all because the person does not produce one of the proteins needed for blood clotting. Victoria passed the hemophilia allele to her son Leopold, who had the disease, and to two of her daughters, who were carriers. The allele then passed through successive generations of Victoria's family, as the pedigree below shows.



- Which of Victoria's children were carriers of the hemophilia allele?

- Which of Victoria's children passed the hemophilia on to Empress Alexandria of Russia?

- Which of Victoria's children passed the hemophilia allele on to Queen Victoria Eugenie of Spain? _____
- Assume a direct descendant of Maria Christina, daughter of Queen Victoria Eugenie of Spain, has just been found to have hemophilia. Her symbol in the pedigree has a "?" How would her symbol now need to be drawn? (draw it)
- Explain why males are more likely than females to have hemophilia.

Name _____ Period _____

SECTION 4-2 Genetic Disorders

Complete the table below. The answer the question that follow.

Human Genetic Disorders

Disorder	Type of Allele	Effects on Body
1. _____	2. _____	Abnormally thick mucus in lungs and intestines
Sickle-cell disease	3. _____	4. _____
5. _____	Recessive sex-linked	Blood clots poorly

6. Name one treatment for cystic fibrosis . _____

7. How does sickle-cell trait differ from sickle-cell disease? _____

8. Why is hemophilia more common in males than in females? _____

9. What causes Down syndrome? _____

*If the statement is true, write true. If it is false, **change** the underlined word to make it true.*

_____ 10. A genetic disorder is an abnormal condition that a person inherits through genes or chromosomes.

_____ 11. Genetic counseling is a procedure in which cells are examined to determine whether a baby will have some genetic disorder.

_____ 12. A picture of all the chromosomes in a cell is called a genotype.