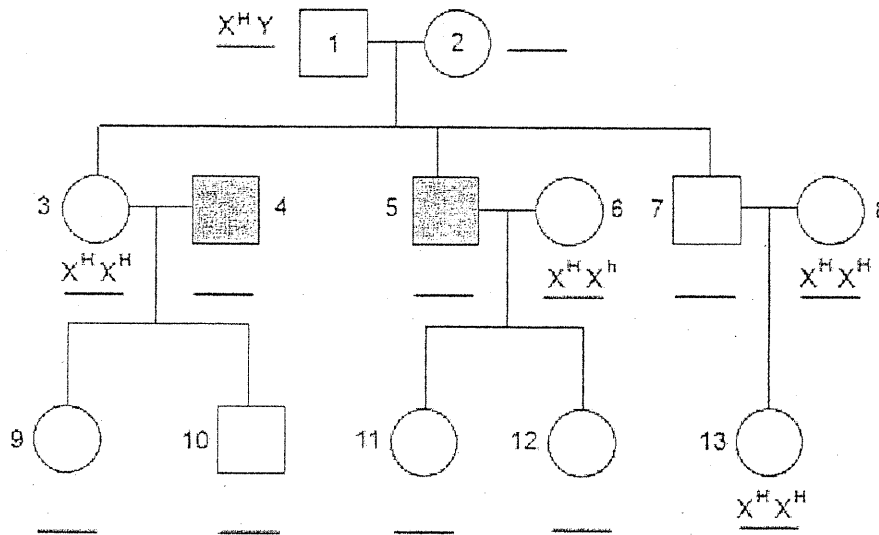


Sex-Linked Pedigrees Worksheet

Background Information. Pedigrees are used to trace a gene as it is passed down from generation to generation. The squares represent a male and the circles represent a female. In the examples in this handout, the shaded circles and squares will represent having the disorder. Make sure to read each question to find out if a disorder is caused by dominant alleles or recessive alleles. A person can be a carrier of a trait, meaning they have heterozygous alleles.

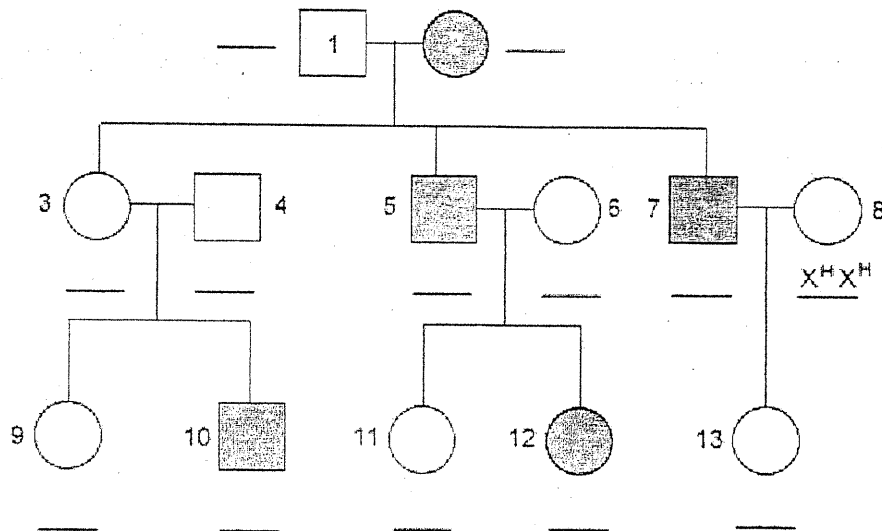
1) Hemophilia is a recessive sex-linked disorder located on the X chromosome where a person's body can not control blood clotting or coagulation. Write in the genotypes on the line next to / below each individual.



For all phenotype questions, on the first line write: male or female and the second line write: normal, carrier, hemophilia.

- 2) What is the phenotype of individual 2? _____
- 3) What is the phenotype of individual 4? _____
- 4) What is the phenotype of individual 5? _____
- 5) What is the phenotype of individual 7? _____
- 6) What is the phenotype of individual 9? _____
- 7) What is the phenotype of individual 10? _____
- 8) What is the phenotype of individual 11? _____
- 9) What is the phenotype of individual 12? _____

10) Fragile-X syndrome is a recessive sex-linked disorder located on the X chromosome. Below is a pedigree tracing the passing of the fragile-X syndrome gene through 3 generations. Write in the genotypes on the line next to / below each individual.



For all phenotype questions, on the first line write: male or female and the second line write: normal, carrier, fragile-X.

- 11) What is the phenotype of individual 1? _____
- 12) What is the phenotype of individual 4? _____
- 13) What is the phenotype of individual 6? _____

14) Below is a recessive sex-linked pedigree tracing the red-green colorblindness gene located on the X chromosome. Write in the genotypes on the line next to / below each individual.

