

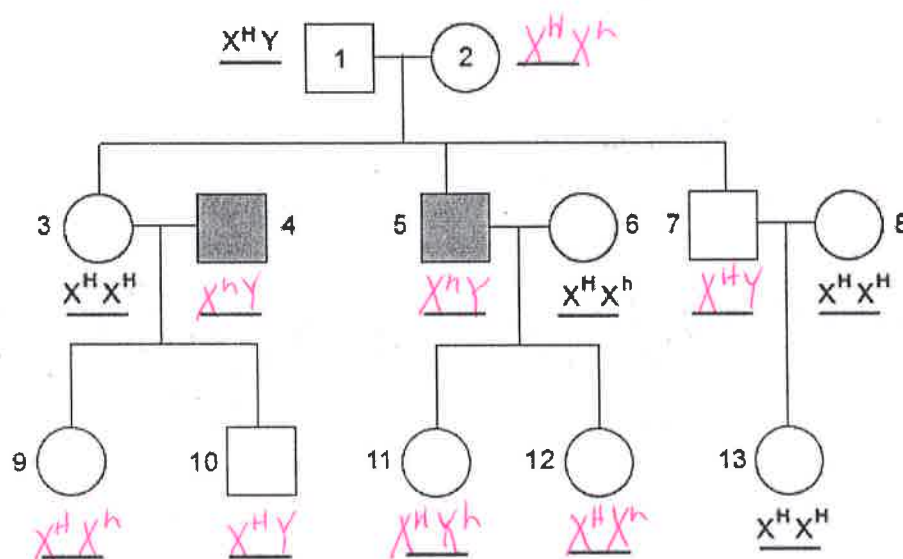
Name: Key Row: _____

Date: _____ Period: _____

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 on 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.

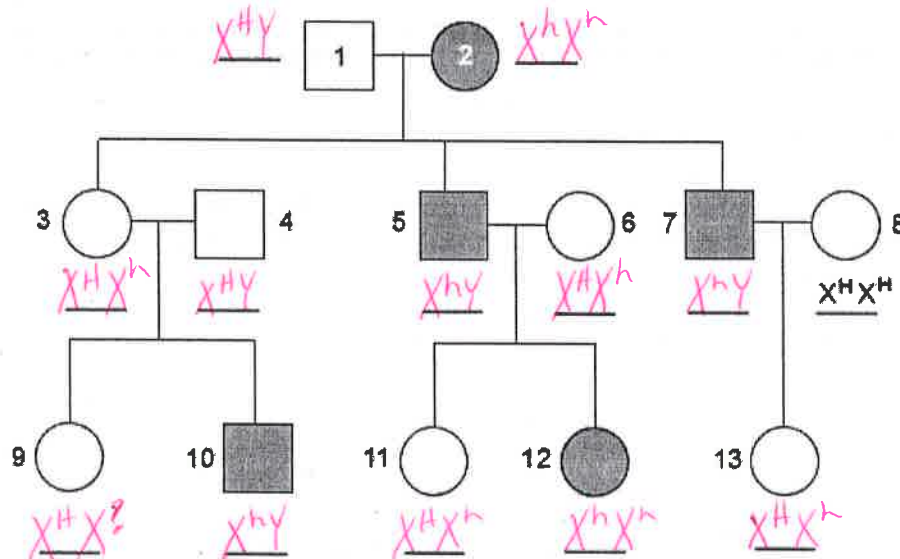
1) Hemophilia is a recessive sex-linked disorder located on the X chromosome where a person's body cannot control blood clotting or coagulation. Write in the genotypes on the line next to / below each individual.



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? | <u>female</u> | <u>carrier</u> |
| 3) What is the phenotype of individual 4? | <u>male</u> | <u>hemophilia</u> |
| 4) What is the phenotype of individual 5? | <u>male</u> | <u>hemophilia</u> |
| 5) What is the phenotype of individual 7? | <u>male</u> | <u>normal</u> |
| 6) What is the phenotype of individual 9? | <u>female</u> | <u>carrier</u> |
| 7) What is the phenotype of individual 10? | <u>male</u> | <u>normal</u> |
| 8) What is the phenotype of individual 11? | <u>female</u> | <u>carrier</u> |
| 9) What is the phenotype of individual 12? | <u>female</u> | <u>carrier</u> |

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? male normal
- 12) What is the phenotype of individual 4? male normal
- 13) What is the phenotype of individual 6? female carrier

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.

