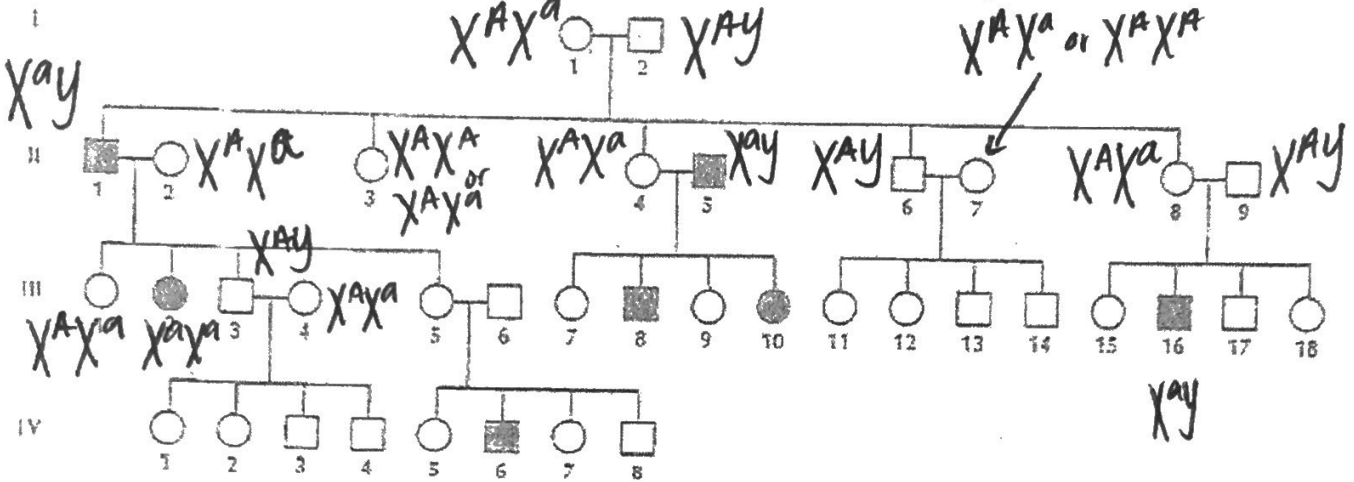


Name: Key! Period: _____ Date: _____

Pedigree Analysis

Study the pedigree for hemophilia shown below and answer questions 1-18.



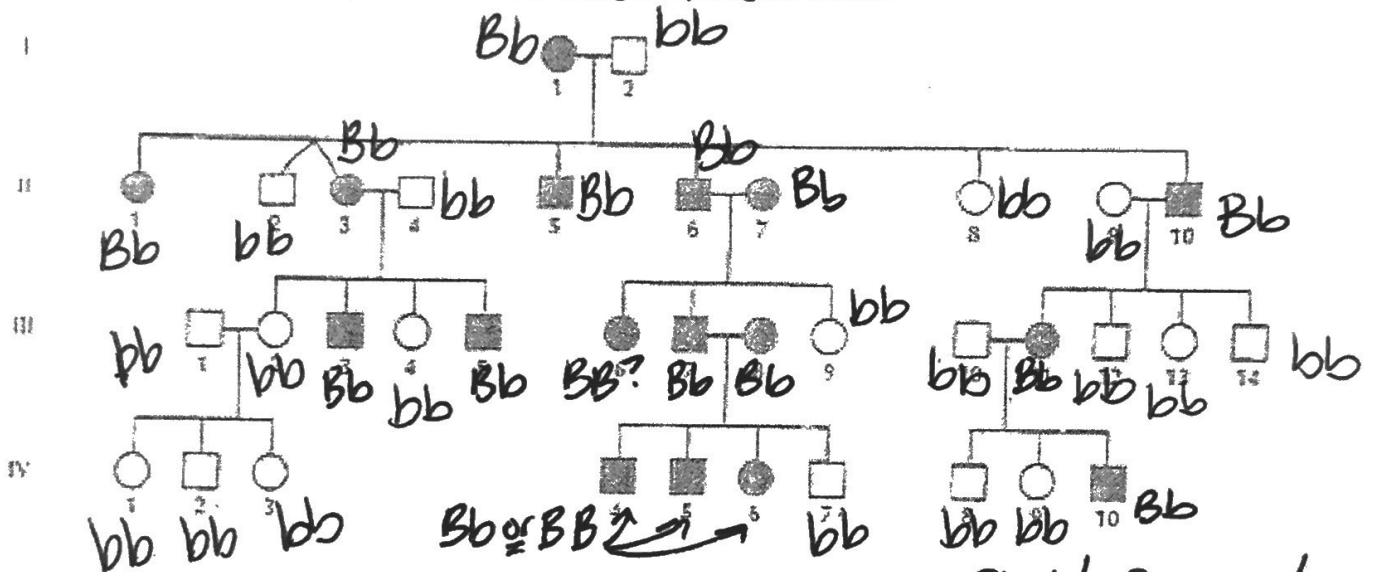
1. Does the pedigree above show an autosomal or sex-linked disorder? Sex-linked
2. Does the pedigree above show a dominant or recessive disorder? recessive
3. How many males in this pedigree have hemophilia? 5
4. How many males in this pedigree are normal? 11
5. How many females in this pedigree have hemophilia? 2
6. How many females in this pedigree are normal? 19
7. How many generations are represented in this pedigree? 4
8. How many marriages are there in this pedigree? 7
9. How many children did the couple in Generation I have? 5
10. Was the oldest child a male or female? male
11. How many of their children were females? 3
12. Write in the genotypes for all the individuals in the pedigree.
13. How many males have the genotype X^NY Normal male
14. How many males have the genotype X^aY hemophiliac male
15. How many females have the genotype X^NX^n heterozygous female

16. How many females have the genotype $X^N X^?$ _____

17. How many females have the genotype $X^? X^?$ _____

18. How is it possible for unaffected parents in this pedigree to have an affected child? the trait is recessive, if both parents are carriers they can pass on the gene without showing it

Study the pedigree below showing brachydactyly. Brachydactyly is a condition in which fingers are abnormally short. Answer questions 19-26 using the pedigree below.



19. Does the pedigree above show an autosomal or sex-linked disorder? autosomal

20. Does the pedigree above show a dominant or recessive disorder? dominant

21. Write in the genotypes for all of the individuals in the pedigree.

22. How many males in this pedigree have brachydactyly? 9

23. How many males in this pedigree are normal? 10

24. How many females in this pedigree have brachydactyly? 8

25. How many females in this pedigree are normal? 9

26. Why do you think the two individuals in Generation 2 (II-2 and II-3) are joined together? What does this represent in a pedigree? twins!