

1. Which members of the family above are afflicted with Huntington's Disease? _____
2. There are no carriers for Huntington's Disease- you either have it or you don't. With this in mind, is Huntington's disease caused by a dominant or recessive trait? _____
3. How many children did individuals I-1 and I-2 have? _____
4. How many girls did II-1 and II-2 have? _____ How many have Huntington's Disease? _____
5. How are individuals III-2 and II-4 related? _____ I-2 and III-5? _____

6. The pedigree to the right shows a family's pedigree for Hitchhiker's Thumb vs having a straight thumb. Is this trait a straight thumb dominant or recessive? _____

7. How do you know? _____

8. How are individuals III-1 and III-2 related? _____

9. How would you name the 2 individuals that have straight thumbs? _____

10. Name the 2 individuals that were carriers of straight thumbs. _____

11. Is it possible for individual IV-2 to be a carrier? _____ Why? _____

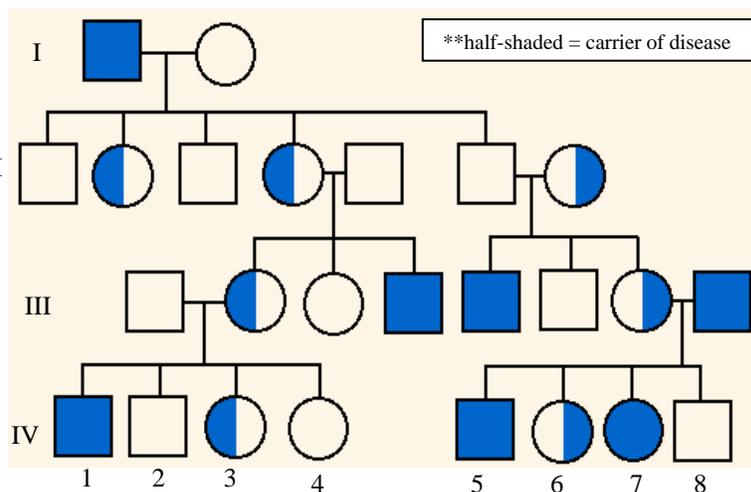
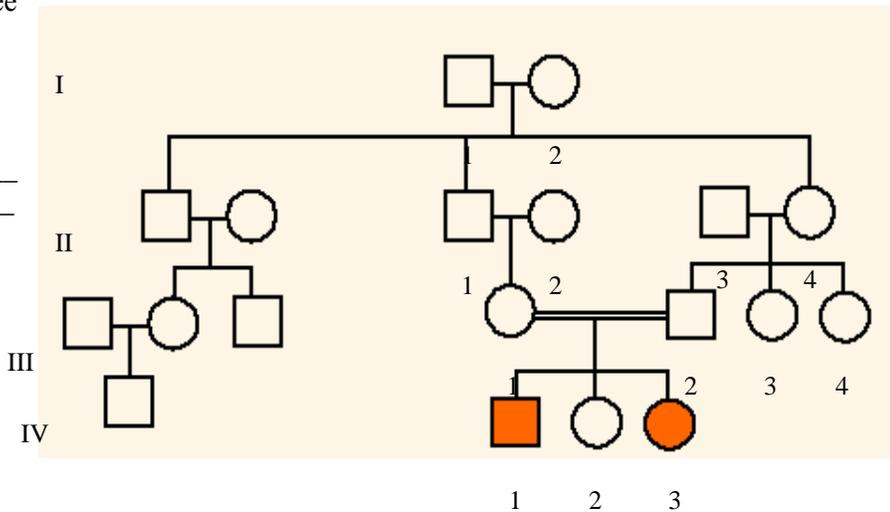
12. The pedigree to the right shows a family's pedigree for colorblindness. Which sex can be carriers of colorblindness and not have it? _____

13. With this in mind, what kind of trait is colorblindness (use your notes)? _____

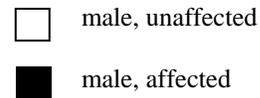
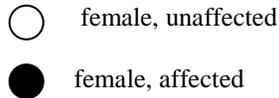
14. Why does individual IV-7 have colorblindness? _____

15. Why do all the daughters in generation II carry the colorblind gene? _____

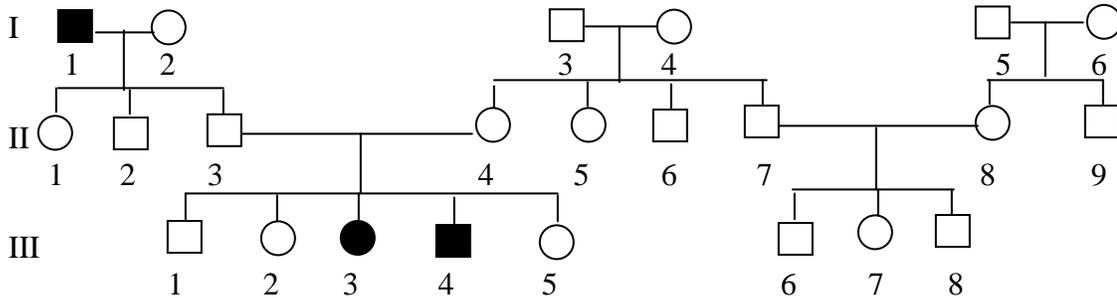
16. Name 2 IV generation colorblind males. _____



A pedigree is a chart of a person's ancestors that is used to analyze genetic inheritance of certain traits – especially diseases. The symbols used for a pedigree are:



- Siblings are placed in birth order from left to right and are labeled with numbers.
- Each generation is labeled with a Roman numeral.
 - Example: we would name an individual II-3 if he/she was in the second generation and the 3rd child born



Try to identify the genotypes of the following individuals using the pedigree above.
(homozygous dominant, homozygous recessive, heterozygous)

- III-3: _____
- II-1: _____
- I-1: _____
- II-4: _____

17. Is this trait dominant or recessive? Explain your answer.

18. How can you know for sure that individuals II-3 and II-4 are heterozygous?

19. Almond shaped eyes are a dominant eye-shape allele and round eyes are recessive. An almond-eyed woman whose father had round eyes and whose mother had almond eyes marries an almond-eyed man whose parents are also almond-eyed. They have a son who is round-eyed. Please draw a pedigree showing all four grandparents, the two parents, and the son. Indicate which individuals you are certain of their genotype and where there is more than one possibility.