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. Is this trait 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 hitchhiker’s thumb? ________________________

10. Name the 2 individuals that were carriers of hitchhiker’s thumb. ________________________

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. ____________
Examine the following pedigree that illustrates the inheritance of Hemophilia, a bleeding disorder, and answer questions 1-8:

1. Which individuals are affected (list them by number)? __________________
2. What type of inheritance is this disease? ________________________________
3. How do you know this? ____________________________________________________________________________________________

4. Write in the genotypes of all carriers next to their shapes in the pedigree above.

5. Is it possible for individual III-2 to have a child with this disease? If so, then how?
______________________________________________________________________________________________
______________________________________________________________________________________________

6. If individual III-4 married a man with Hemophilia, then will their daughters be diseased or healthy? Complete the punnett square to illustrate your answer. Use “H” and “h” to indicate alleles. Then, write the ratios of the resulting genotypes and phenotypes (Ex: 2:1).

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Genotypic ratio _______
Phenotypic ratio _______

7. What would the genotype of a diseased female be? ____________

8. Could a diseased female have a healthy son? Why or why not?
______________________________________________________________________________________________