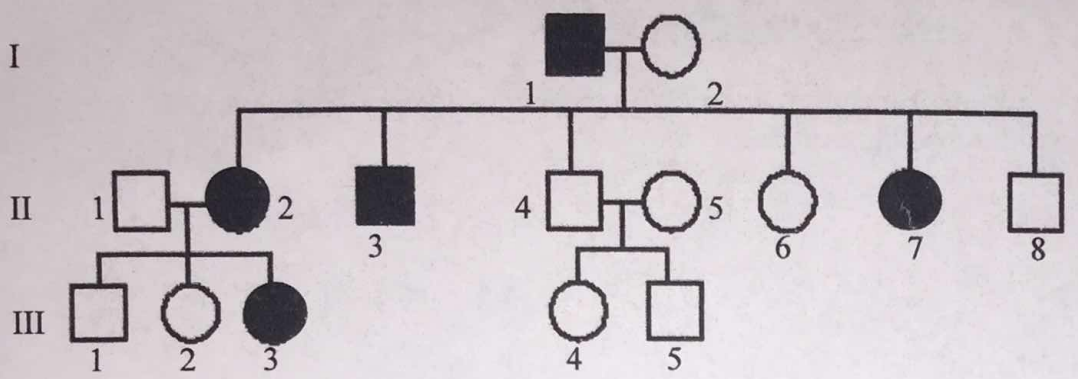
Pedigree Worksheet #2 **Name** Anne Surkey



1. Which members of the family above are afflicted with Huntington's Disease? I-1, II-2, II-3, II-7, III-3

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? dominant

3. How many children did individuals I-1 and I-2 have? 6

4. How many girls did II-1 and II-2 have? 2 How many have Huntington's Disease? 1

5. How are individuals III-2 and II-4 related? uncle/niece I-2 and III-5? grandma/grandson

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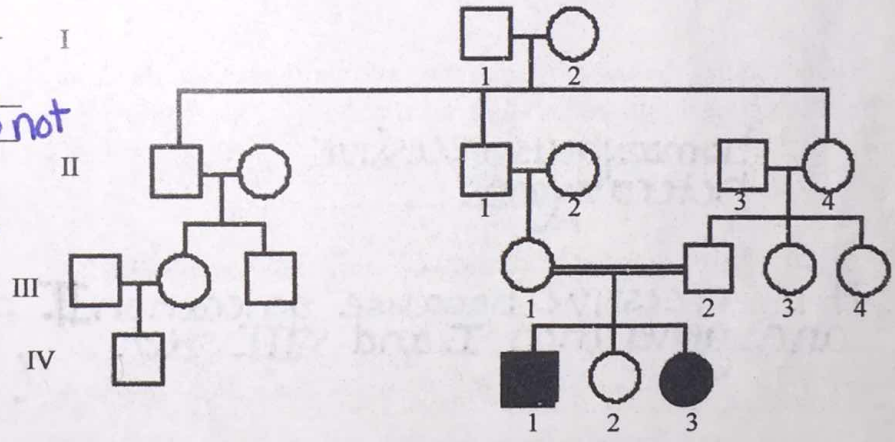
6. The pedigree to the right shows a family's pedigree for Hitchhiker's Thumb. Is this trait dominant or recessive? recessive

7. How do you know? skips generations children have, but parents do not

8. How are individuals III-1 and III-2 related? Cousins/marriage

9. How would you name the 2 individuals that have hitchhiker's thumb? IV-1 + IV-3

10. Name the 2 individuals that were carriers of hitchhiker's thumb. III-1 ; III-2



11. Is it possible for individual IV-2 to be a carrier? Yes Why? b/c parents carriers

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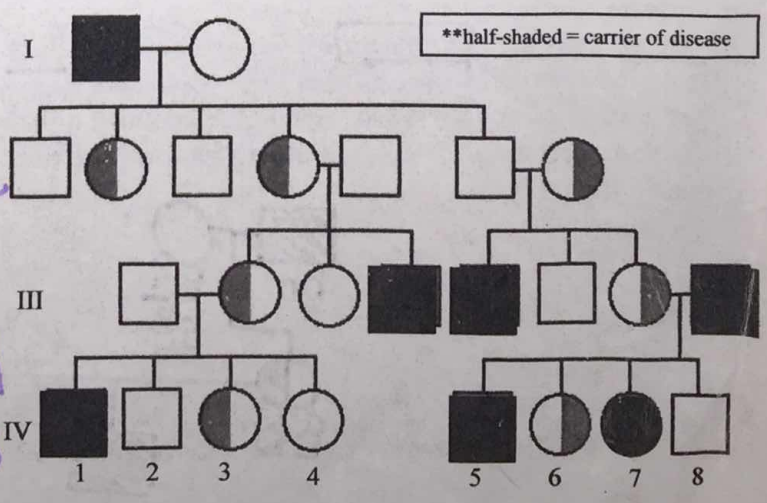
12. The pedigree to the right shows a family's pedigree for colorblindness. Which sex can be carriers of colorblindness and not have it? females

13. With this in mind, what kind of trait is colorblindness (use your notes)? Sex-linked/recessive

14. Why does individual IV-7 have colorblindness? b/c dad is affected + mom is a carrier

15. Why do all the daughters in generation II carry the colorblind gene? because dad is affected and gives the X

16. Name 2 IV generation colorblind males. IV-1, IV-5



Name _____

Genetics Pedigree Worksheet

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:

○ female, unaffected

□ male, unaffected

● female, affected

■ male, affected

- 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

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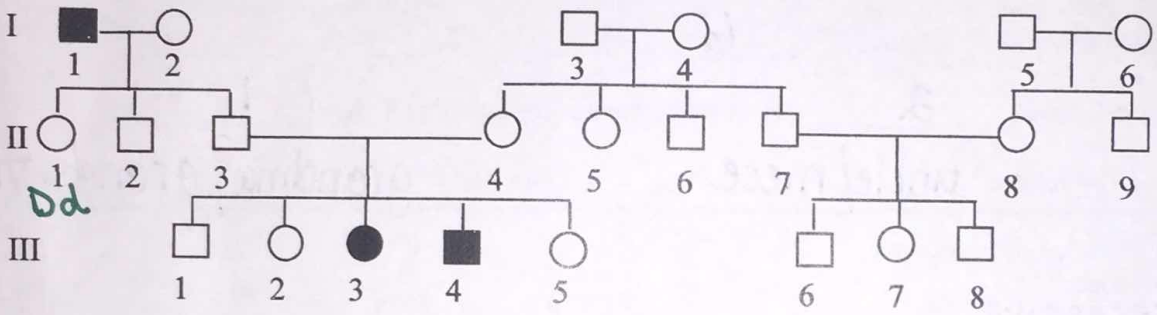

Try to identify the genotypes of the following individuals using the pedigree above. (homozygous dominant, homozygous recessive, heterozygous)

- III-3: homozygous recessive
- II-1: heterozygous
- I-1: homozygous recessive
- II-4: heterozygous

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

It is recessive because generation II does not have the disease and generation I and III do. (Skips generations)

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

Because offspring have disease so they are both carriers

3. Brown eyes are a dominant eye-color allele and blue eyes are recessive. A brown-eyed woman whose father had blue eyes and whose mother had brown eyes marries a brown-eyed man whose parents are also brown-eyed. They have a son who is blue-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 are more than one possibilities.