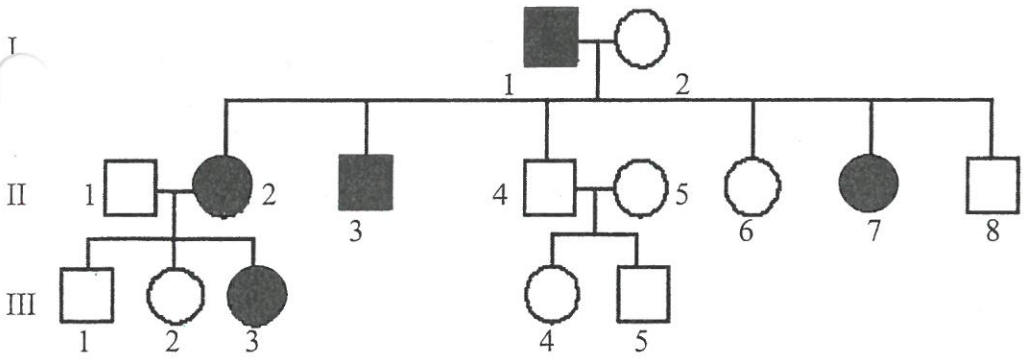
Pedigree Worksheet Name KEY



= Huntington's Disease

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? 3 How many have Huntington's Disease? 1

5. How are individuals III-2 and II-4 related? uncle + neice I-2 and III-5? grandmother + grandson

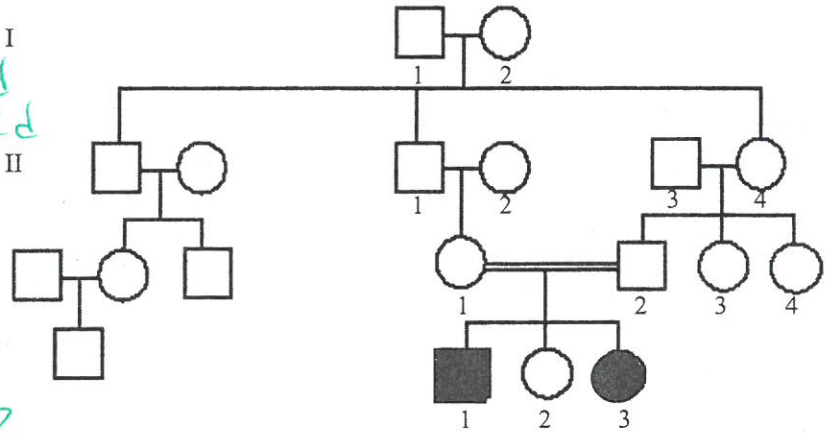
6. The pedigree to the right shows a family's pedigree for Hitchhiker's Thumb. Is this trait dominant or recessive? recessive

How do you know? two unaffected parents have an affected child

8. How are individuals III-1 and III-2 related? husband + wife

9. How would you name the 2 individuals that have hitchhiker's thumb? IV 1 & IV 2 brother + sister

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? Both here parents are heterozygotes

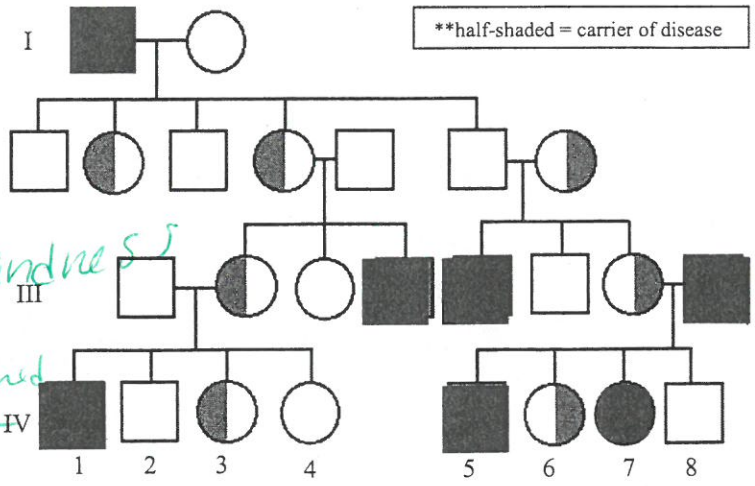
12. The pedigree to the right shows a family's pedigree for colorblindness. Which sex can be carriers of colorblindness and not have it? female

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

14. Why does individual IV-7 have colorblindness? she has 2 alleles for colorblindness

Why do all the daughters in generation II carry the colorblind gene? 1 recessive allele attached to X from dad

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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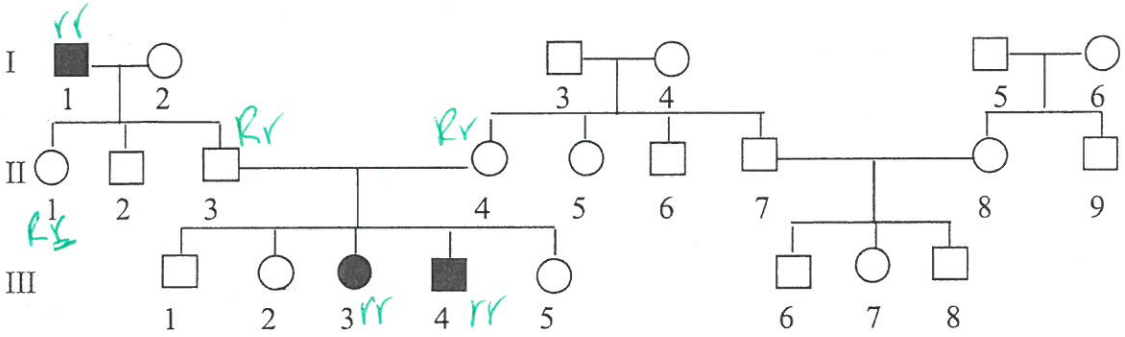

Try to identify the genotypes of the following individuals using the pedigree above.
(homozygous dominant, homozygous recessive, heterozygous)

- III-3: could be RR or Rr
- I-1: homozygous recessive
- II-1: Rr heterozygous r from dad + R from mom
- II-4: Rr heterozygous - have a recessive child

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

Recessive - two unaffected parents have affected children. If dominant, one of the parents must have the trait.

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

they have recessive affected children so each unaffected parent must possess one normal and one affected allele.

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.

B = brown

b = blue