

# Pedigree Practice Answer Key

- ①
- A. autosomal  $\rightarrow$  affects males & females equally  
recessive  $\rightarrow$  affected individuals have 2 normal parents
  - B. sex-linked  $\rightarrow$  more females affected than males  
recessive  $\rightarrow$  affected individual has 2 normal parents
  - C. sex-linked  $\rightarrow$  more males affected than females  
recessive  $\rightarrow$  affected individuals have 2 normal parents
  - D. autosomal  $\rightarrow$  father of 15 & 13 passed trait onto sons  
this is not possible if trait is sex-linked to X  
& we know trait is not sex-linked to Y because  
not every male displays the trait  
  
dominant  $\rightarrow$  affected individuals are seen in every generation

- ②
- If you are familiar with genetic disorders, you know Cystic Fibrosis is autosomal recessive. If not, the pedigree shows the disorder skipping generations (a characteristic of recessive traits) and on the right side of the pedigree we see an affected mother (who must have 2 recessive alleles) who does not pass on the trait to her son. This rules out sex-linked as an option. L = no lung disease, l = lung disease
- a. ll   b. Ll   c. Ll   d. LL or Ll

- ③
- If you are familiar with genetic disorders, you know Huntington's disease is autosomal dominant. If not, the pedigree shows the disorder affecting at least one member of each generation (a characteristic of dominant traits) and on the left side of the pedigree we see an affected father pass the trait on to his son, even though his wife is unaffected. This rules out sex-linked as an option. B = brain disease, b = no brain disease
- a. Bb   b. Bb   c. bb   d. bb   e. BB or Bb