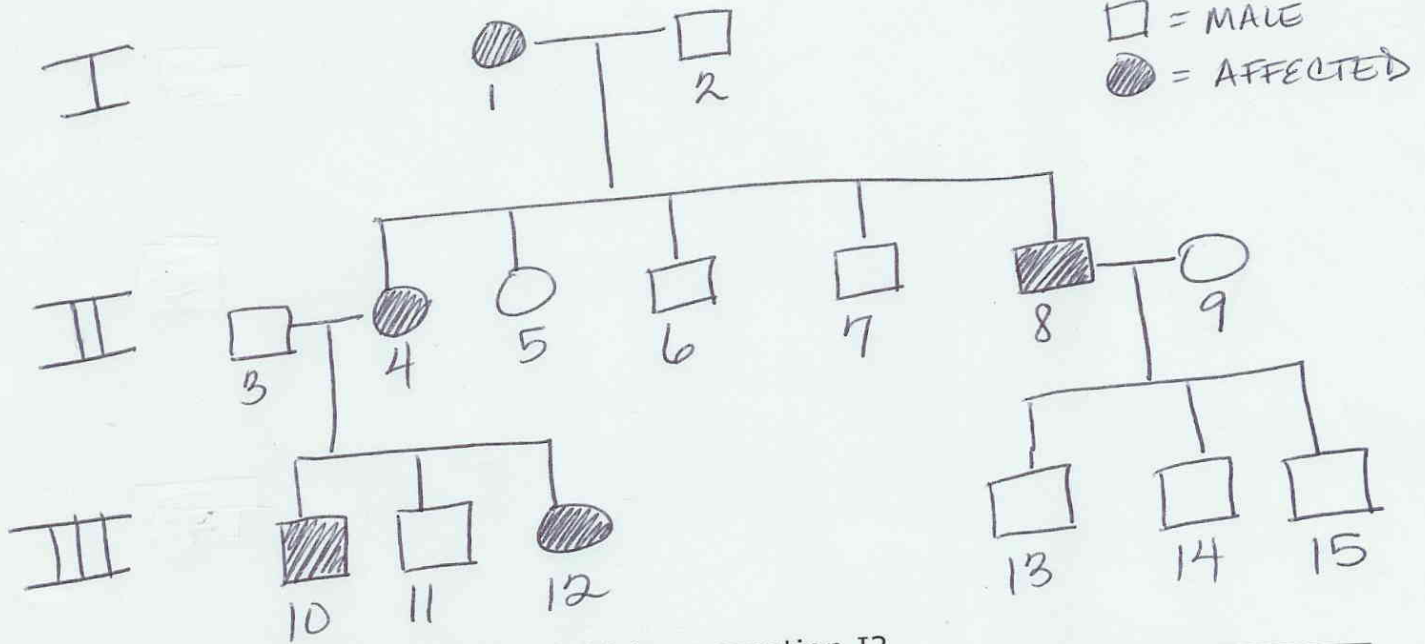


# Pedigrees

↑ use a reference book if you need help with this!

Interpreting pedigrees can be difficult at first... But once you get used to recognizing certain symbols and patterns, it becomes much easier to determine the genotypes of the individuals in a pedigree.

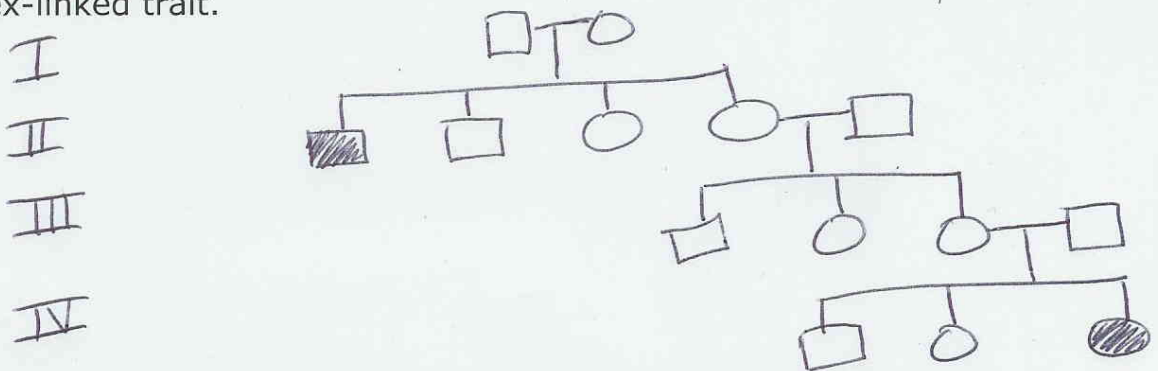
- Examine the pedigree below. This family pedigree shows a genetic condition that is X-linked and appears in the presence of the dominant allele.



1. What is the gender of individual #1 in generation I? \_\_\_\_\_
2. Is the I-1 individual affected or unaffected? \_\_\_\_\_
3. What is the genotype of the I-1 individual? *Hint... Look at the children and remember that this is an X-linked trait...* \_\_\_\_\_
4. What is the phenotype of the II-5 individual? \_\_\_\_\_
5. What is the genotype of the II-5 individual? \_\_\_\_\_
6. Explain why some of the II individuals do not have the condition. \_\_\_\_\_
7. What is the genotype of the II-8 individual? \_\_\_\_\_
8. Why is the III-11 individual free of the condition even though his brother and sister have it? \_\_\_\_\_
9. If individual II-5 were to have male offspring, what is the probability (as a percentage) that they would be affected? *Hint... You do not need to know the genotype of the other parent to answer this question...* \_\_\_\_\_

Now try to answer the following questions for each pedigree. Notice that only 'affected' individuals are shown, not the carriers...

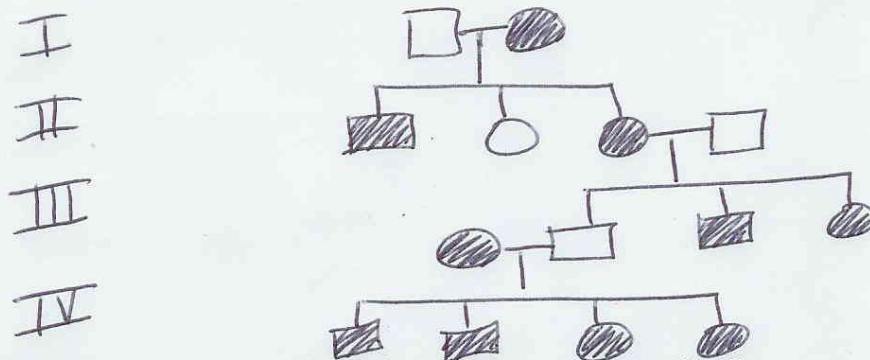
- This pedigree shows the inheritance of attached earlobes for four generations. This is not a sex-linked trait.



Is the trait for attached earlobes dominant or recessive? \_\_\_\_\_

Explain how you can tell... \_\_\_\_\_

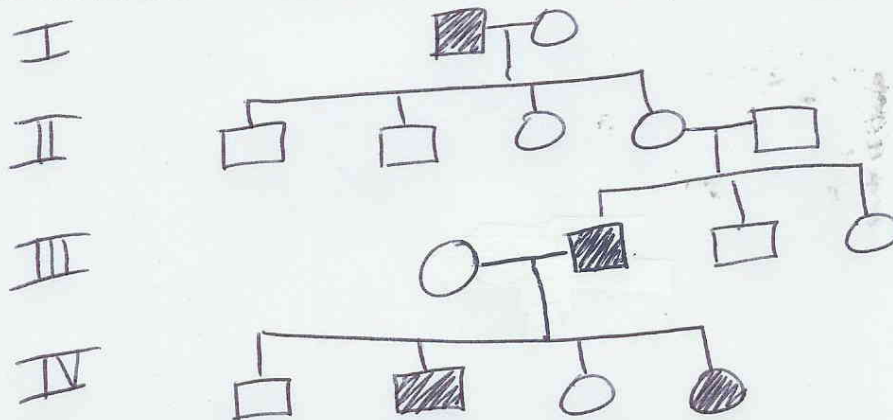
- This pedigree shows the inheritance of tongue-rolling... also not sex-linked.



Is the trait for tongue-rolling dominant or recessive? \_\_\_\_\_

Explain how you can tell... \_\_\_\_\_

- This pedigree shows the inheritance of colorblindness, an X-linked trait.



Is the trait for colorblindness dominant or recessive? \_\_\_\_\_

Explain how you can tell... \_\_\_\_\_

Is III-1 colorblind, a carrier or normal vision? \_\_\_\_\_