

**Practice Pedigrees:**

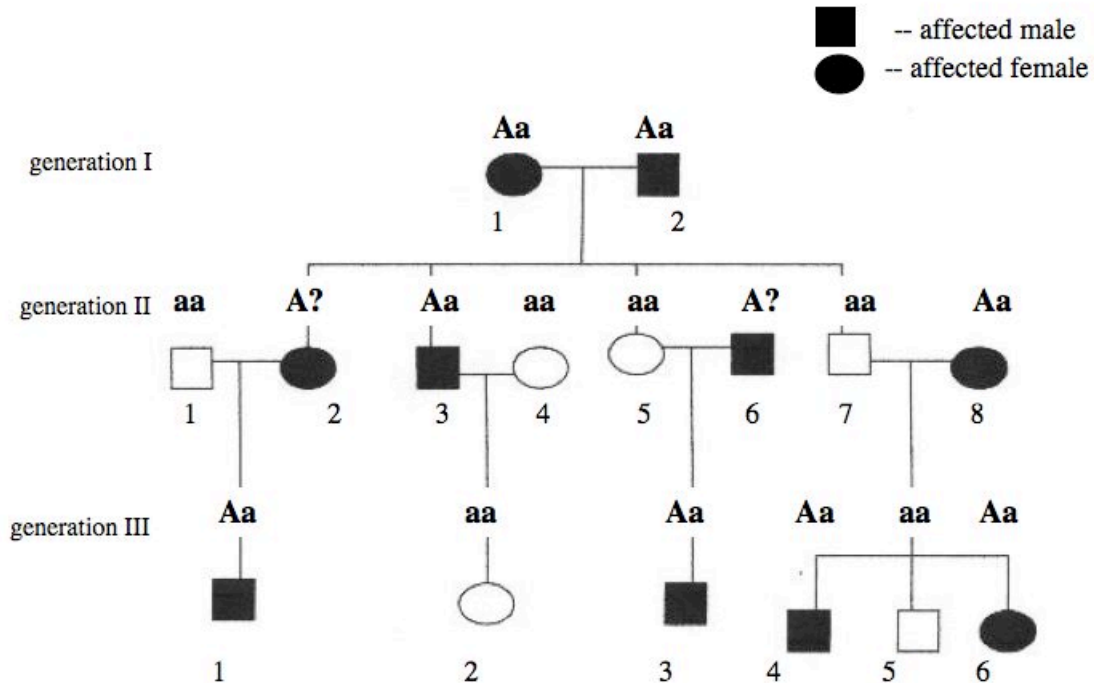
Examine the following pedigree.

(1) What inheritance pattern do you think is shown? (Autosomal Recessive, Autosomal Dominant, X-linked Recessive) – **AUTOSOMAL DOMINANT**

Can you rule out the other two patterns? Are you 100% certain, or are you doing it by probability. Explain. **YES we can rule out the other two patterns with 100% certainty, because it can't be a recessive trait that is being passed down. TWO affected parents have offspring that are NOT affected, and that is not possible if it is a recessive trait, since the parents would have to be homozygous recessive and could only have homozygous recessive offspring.**

It is VERY BENEFICAL to go through the entire pedigree and determine the genotype of each individual. If you can't determine one of the alleles, just use a ?.

AA, Aa, aa or A? or if X-linked:  $X^A X^A$ ,  $X^A X^a$ ,  $X^a X^a$ ,  $X^A Y$ , or  $X^a Y$  or  $X^A X^?$



(2) What inheritance pattern do you think is shown? ? (Autosomal Recessive, Autosomal Dominant, X-linked Recessive)

**Could be EITHER recessive pattern – but more likely X-linked Recessive since it is primarily in males.**

Can you rule out the other two patterns? Are you 100% certain, or are you doing it by probability. Explain.

**Autosomal Dominant can be ruled out because two individuals who do not express the trait (gen II, individual #1 & 2) can't have an offspring with the trait if it was autosomal dominant.**

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