

Practice Pedigree Charts

In humans, **albinism** is a recessive trait. The disorder causes a lack of pigment in the skin and hair, making an albino appear very pale with white hair and pale blue eyes. This disorder also occurs in animals, a common albino found in a laboratory is the white rat.

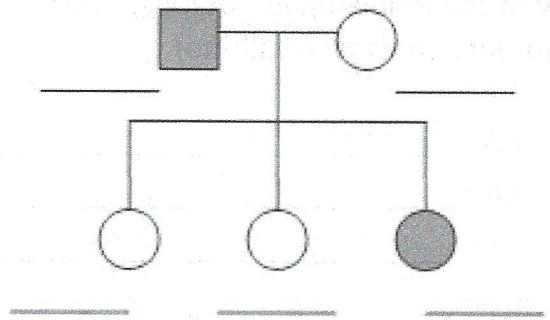
The pedigrees below trace the inheritance of the allele that causes albinism. In each pedigree, a male is represented by a square and a female is represented by a circle. If the shape is shaded, that indicates that the individual displays the trait being studied. In the case below, shaded circles represent individuals who are albino (aa).

1. Given the following genotypes, describe the phenotypes (normal or albino)

AA = _____

Aa = _____

aa = _____



Fill out the blanks on the pedigree →

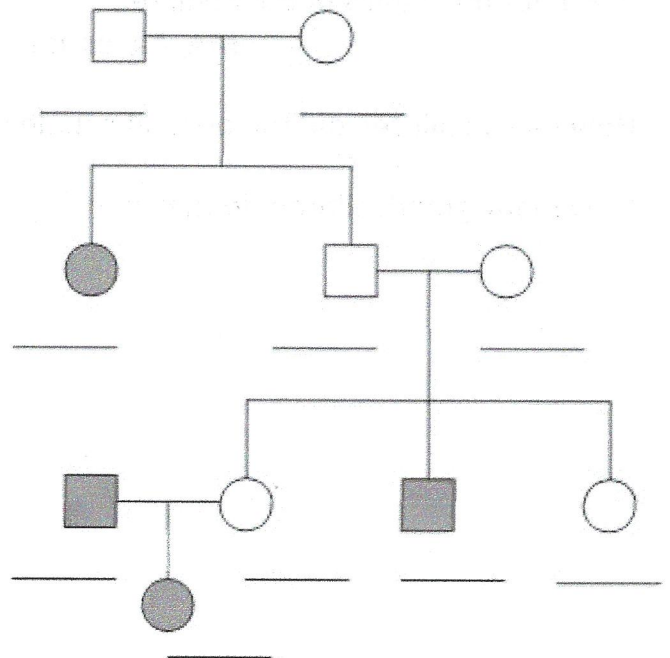
How many children does this family have? _____

What are the sexes of the children? _____

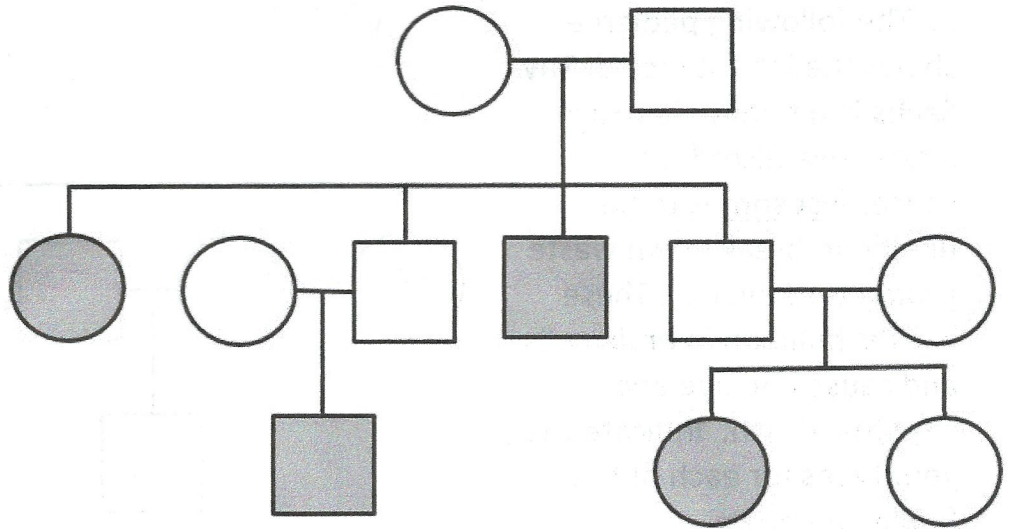
2. Fill out the blanks of the pedigree
(AA, Aa, or aa)

How many children did the original couple have? _____

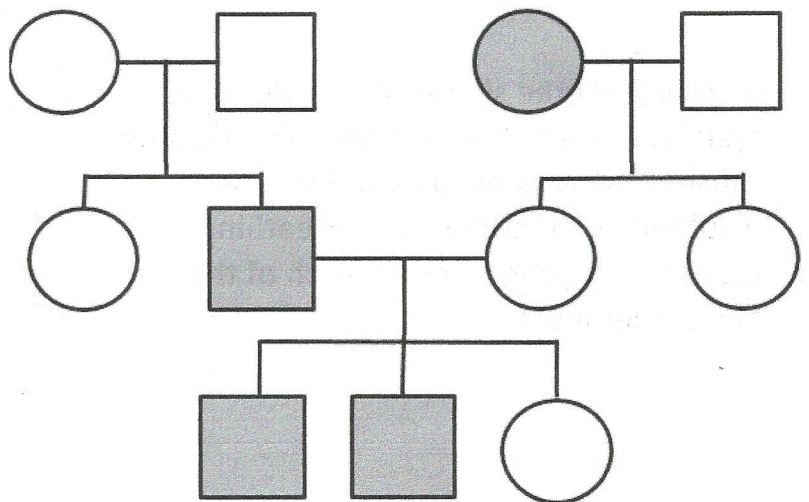
How many grandchildren do they have? _____



3. The following pedigree shows the inheritance of **Tay-Sachs** in a family. Tay-Sachs is a recessive disorder that causes **lysosomes** to be unable to break down waste products in the cell. These wastes build up in brain cells and cause damage and eventual death. Indicate the genotypes for each of the family members.



4. This pedigree shows the incidence of **cystic fibrosis** in two families. This disorder causes mucus to build up in the lungs, resulting in difficulties with breathing. Indicate the genotypes for each of the family members.



5. In humans, **polydactyly** is a condition where a person has extra fingers or toes. The allele that causes this trait is dominant. A person with Dd or DD will have extra digits. Fill out the pedigree of this family where polydactyly has been observed.

