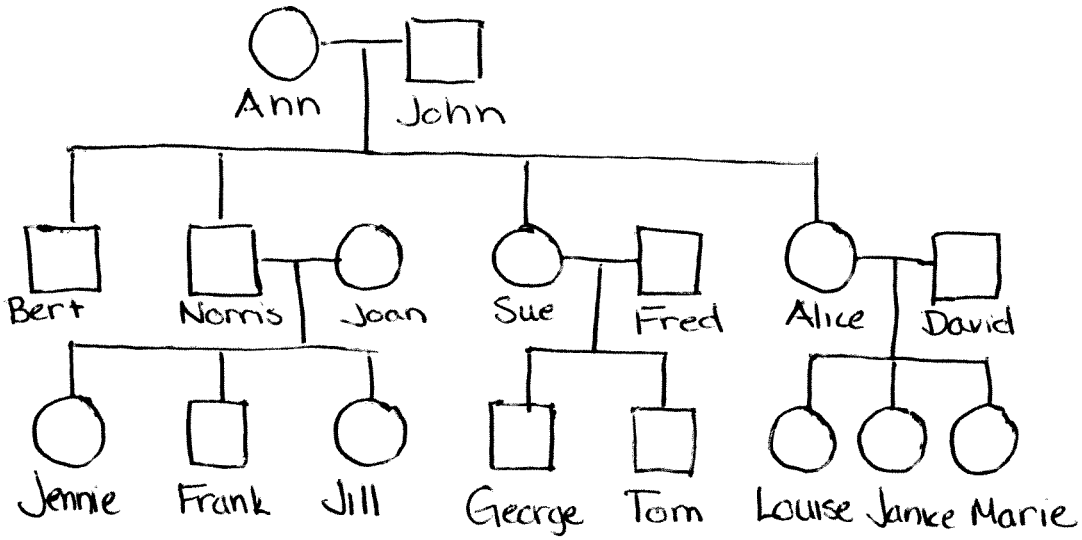
Name: _____ Date: _____ Per: _____

PATTERNS OF HEREDITY

PEDIGREES

Pedigree charts are important in genetic studies. The charts help scientists visualize the inheritance patterns of traits in a family. Below shows a sample pedigree chart. In the chart, squares represent males, circles represent females, and horizontal lines connect married couples. Study the chart and answer the questions that follow.



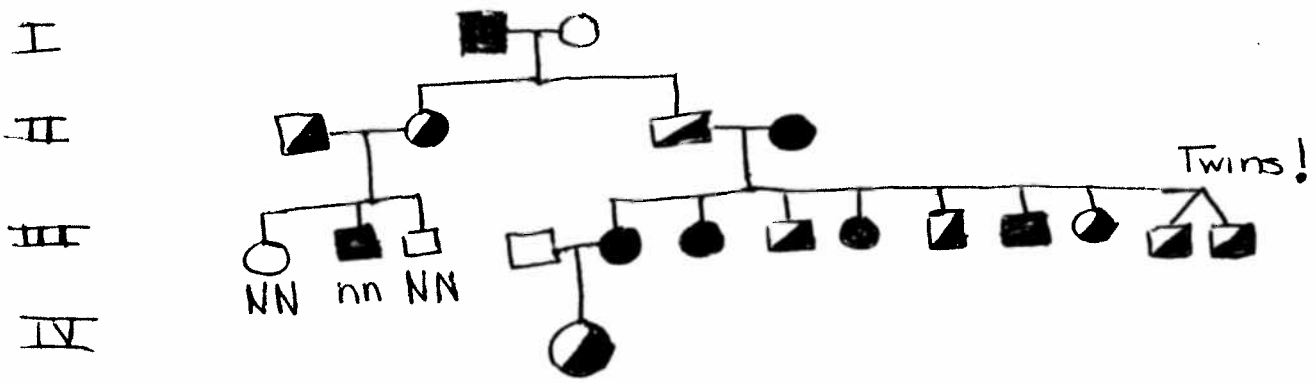
1. Who is the bachelor uncle of Jennie, Frank, and Jill? _____
2. For how many families are John and Ann grandparents? _____
3. What is the family relationship between Jill and George? _____
4. Who are Jennie's two uncles who married into the family? _____
5. What relation is Louise to Fred? _____
6. What relation is George to Joan? _____
7. What relation is Sue to Louise? _____
8. What relation is Joan to Bert? _____
9. What relation is Fred to Alice? _____
10. Frank and Jill were born on the same day. What type of twins are they? _____

☺ TURN ME OVER ☺

Genotypes in a Pedigree

Fill in all possible genotypes for the pedigree below.

Key: ■ or ● = recessive trait, Normal (nn) ← normal, no freckled skin
□ or ○ = dominant trait, Freckles (NN)
◪ or ◐ = heterozygous, Freckles (N,n)



Create a Pedigree

Dad is heterozygous for a widow's peak (dominant) and Mom is also heterozygous for a widow's peak. Grandma on Dad's side is homozygous for a widow's peak while Grandpa on Dad's side does not have one. On Mom's side, Granny does not have a widow's peak while Pappy is heterozygous for one.

Dad and Mom have four children. Mildred, their oldest daughter has a widow's peak. Sam and Cam are their twin sons, and neither one of them has a widow's peak. Pilar is their youngest daughter, and she has been genetically tested to be homozygous dominant for the widow's peak. Mildred is married to Jeff, a man who has a widow's peak. Mildred just gave birth to a baby girl, Jeanine who does not have a widow's peak.

Create a key, draw this pedigree, and fill in everyone's name and genotype. Good luck ☺