

BTR () **Pedigree Practice: This Ain't No "Scooby Snack"**

A) Study Pedigree #1 below and then answer the following questions:

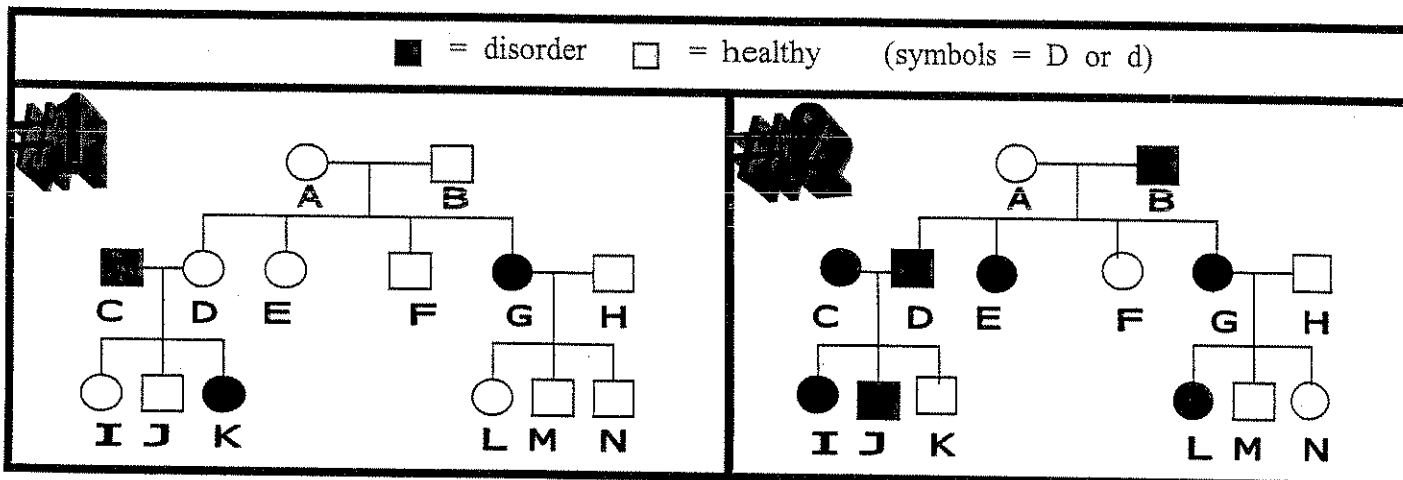
1. Is the disorder **Dominant** or **Recessive** ←Circleexplain WHY ???
2. Write the **genotype** for each person in the pedigree above their or
3. List the letters of all persons who have a **homozygous genotype**.
4. Circle any persons in the pedigree who could have more than 1 possible genotype.
5. Describe the **phenotype** for person D.
6. Describe the **phenotype** for person K.
7. If persons C & D have another child, what is the chance that the child will inherit the disease? _____
Explain using a PS below:

| | |
|---------------|-------------|
| Gene Notation | ___ = _____ |
| Symbols Used | ___ = _____ |
| Parent | MOM = _____ |
| Genotypes | DAD = _____ |

Dad's Sperm

Mom's Eggs

| | |
|--|--|
| | |
| | |



B) Study Pedigree #2 above and then answer the following questions:

1. Is the disorder **Dominant** or **Recessive** ←Circleexplain WHY ???
2. Write the **genotype** for each person in the pedigree above their or
3. List the letters of all persons who have a **homozygous genotype**.
4. Circle any persons in the pedigree who could have more than 1 possible genotype.
5. Describe the **phenotype** for person D.
6. Describe the **phenotype** for person K.
7. If persons C & D have another child, what is the chance that the child will inherit the disease? _____
Explain using a PS below:

| | |
|---------------|-------------|
| Gene Notation | ___ = _____ |
| Symbols Used | ___ = _____ |
| Parent | MOM = _____ |
| Genotypes | DAD = _____ |

Dad's Sperm

Mom's Eggs

| | |
|--|--|
| | |
| | |

C) Lactose is a sugar found in many dairy products made from cow's milk. Lactose intolerance is inherited as a dominant trait. People who have an allele for lactose intolerance cannot properly digest milk products. Paul is intolerant of lactose but his wife, Laura, is not. Additionally, Paul's mom Cathy, and brother, Mike, can eat lots of ice cream while his dad, Scott, and sister, Susan, cannot eat ice cream.

1. Draw a pedigree of this family below.

2. Fill out the table below:

| Name | Genotype | Phenotype |
|-------|----------|-----------|
| Paul | | |
| Cathy | | |
| Scott | | |
| Susan | | |
| Mike | | |
| Laura | | |

3. What is the probability that Paul and Laura will have a child that is intolerant of lactose? _____
 Explain using a PS below:

| | |
|---------------|-------------|
| Gene Notation | ___ = _____ |
| Symbols Used | ___ = _____ |
| Parent | MOM = _____ |
| Genotypes | DAD = _____ |

Dad's Sperm

Mom's Eggs

| | |
|--|--|
| | |
| | |

D) Having long eyelashes is determined by a dominant allele while short eyelashes is determined by a recessive allele. If MOM is hetetozygous for **long** eyelashes and DAD is homozygous for **long** eyelashes, what is the chance they will have a child with **short** eyelashes? _____

Explain using a PS below:

| | |
|---------------|-------------|
| Gene Notation | ___ = _____ |
| Symbols Used | ___ = _____ |
| Parent | MOM = _____ |
| Genotypes | DAD = _____ |

Dad's Sperm

Mom's Eggs

| | |
|--|--|
| | |
| | |