

Name:

Genetics Unit Review

1. Describe Mendel's work. You should know what he worked with and what he discovered.

2. Solve the following types of genetic problems:

1 trait crosses involving a dominant and a recessive gene.

(Tt X Tt) T=Tall t=short

Genotypic Ratio=

Phenotypic Ratio=

3. 1 trait cross that is sex-linked. (in this case, pretend that the disorder is caused by a recessive allele)

($X^H X^h$ X $X^H Y$)

Describe the possible offspring:

4. A cross involving 2 genes that are codominant.
 Cross a **Heterozygous** A blood type women with a **Heterozygous** B blood type man.
 List all of the possible genotypes:

List all of the possible phenotypes:



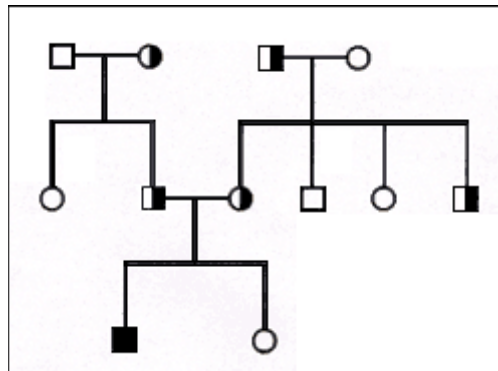
5. Pedigrees: Make sure you put in generation #'s
 Which individuals are:

Male:

Female:

Carriers:

Affected:



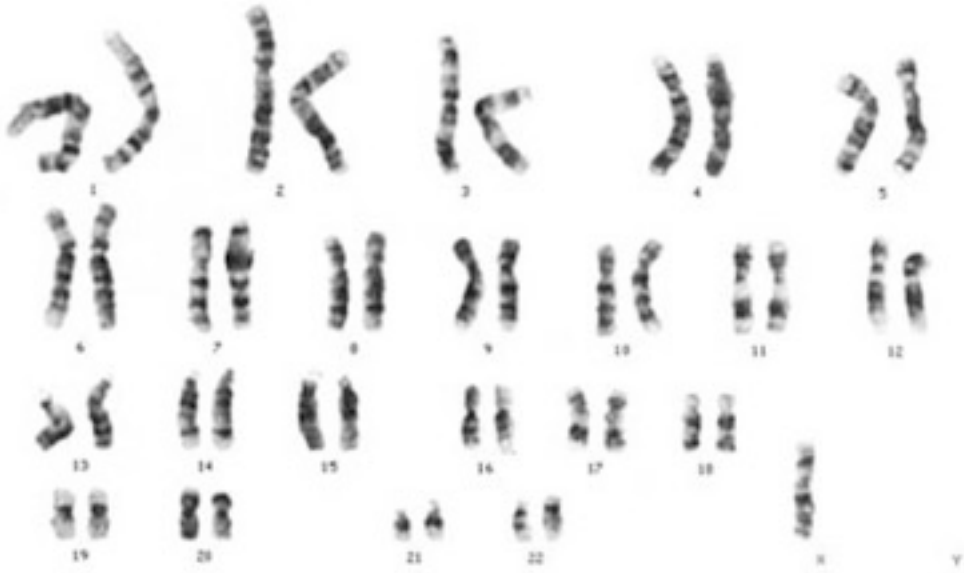
6. What is a karyotype and identify some of the problems that can be identified by a karyotype.

9. Match the following vocabulary terms:

- ___ The father of genetics
- ___ Square diagram used to determine the outcome of a cross
- ___ A gene that, when present, is always expressed or shown
- ___ A gene that is only shown when the individual is *homozygous*
- ___ Different versions of a gene
- ___ Actual gene make-up or *combination of alleles*
- ___ Form of a trait that is *observed*
- ___ A genetic cross involving only 1 trait
- ___ Probability

- A. Dominant
- B. Allele
- C. Gregor Mendel
- D. Punnett Square
- E. Genotype
- F. Phenotype
- G. Recessive
- H. Monohybrid Cross
- I. Likelihood an event will occur

10. Karyotypes: Answer the following questions:



Is this a male or female:
Normal or abnormal karyotype:

11. Incomplete Dominance Punnett Square:

Purple Thingamadoodles are created due to **incomplete dominance** from Red (R) and Blue (B) Thingamadoodles. Using a punnett square show all of the possible offspring from a cross between two Purple Thingamadoodles.

List all of the possible genotypes:

List all of the possible phenotypes: