Genetics Notes

Incomplete Dominance* – 2 parents with dominant traits that result in a combination of the two traits.

Ex: Dad: Brown Hair → B - (BB)
Mom: Blonde Hair → H - (HH)

	B	B
H	BH	BH
H	BH	BH

BH → Light Brown Hair

Co-Dominance: Both dominant and Recessive alleles are expressed in a Heterozygous individual.

Male Dog: Black Fur: Recessive
Female Dog: White Fur: Dominant
→ babies that are white w/ Black spots

Multiple Alleles – Forms of inheritance that are determined by more than 2 Alleles.

Ex: Blood Type: A, B, O
Rh Factor: + or –

A, B: Have Antigens
O: Does not have Antigens

Epistasis – An interaction/combination where one allele hides the effects of another allele or phenotypic Expression.

Dominant Allele: E ← Determines wether the coat of a dog will be dark.
Allele B ← Determine How dark the coat will be.

Ex: Black Lab, Chocolate Lab, Golden Lab

Sex Chromosomes → Determine the individuals Gender

23rd section: sex chromosomes are found

XX ← Female

XY ← Male

The other 22 (pairs) chromosomes we have are called **Autosomes**

≈ 46 total chromosomes (22 pairs of Autosomes + 1 pair of sex chromosom

Sex Linked Traits → (will be a recessive trait) Are connected to the X Chromosome.

Ex: Color blind → (red + green that cant be seen)

X - Color Blind

XY - Male that is color blind

XX - Carrier for colorblindness

XX - Colorblind Female

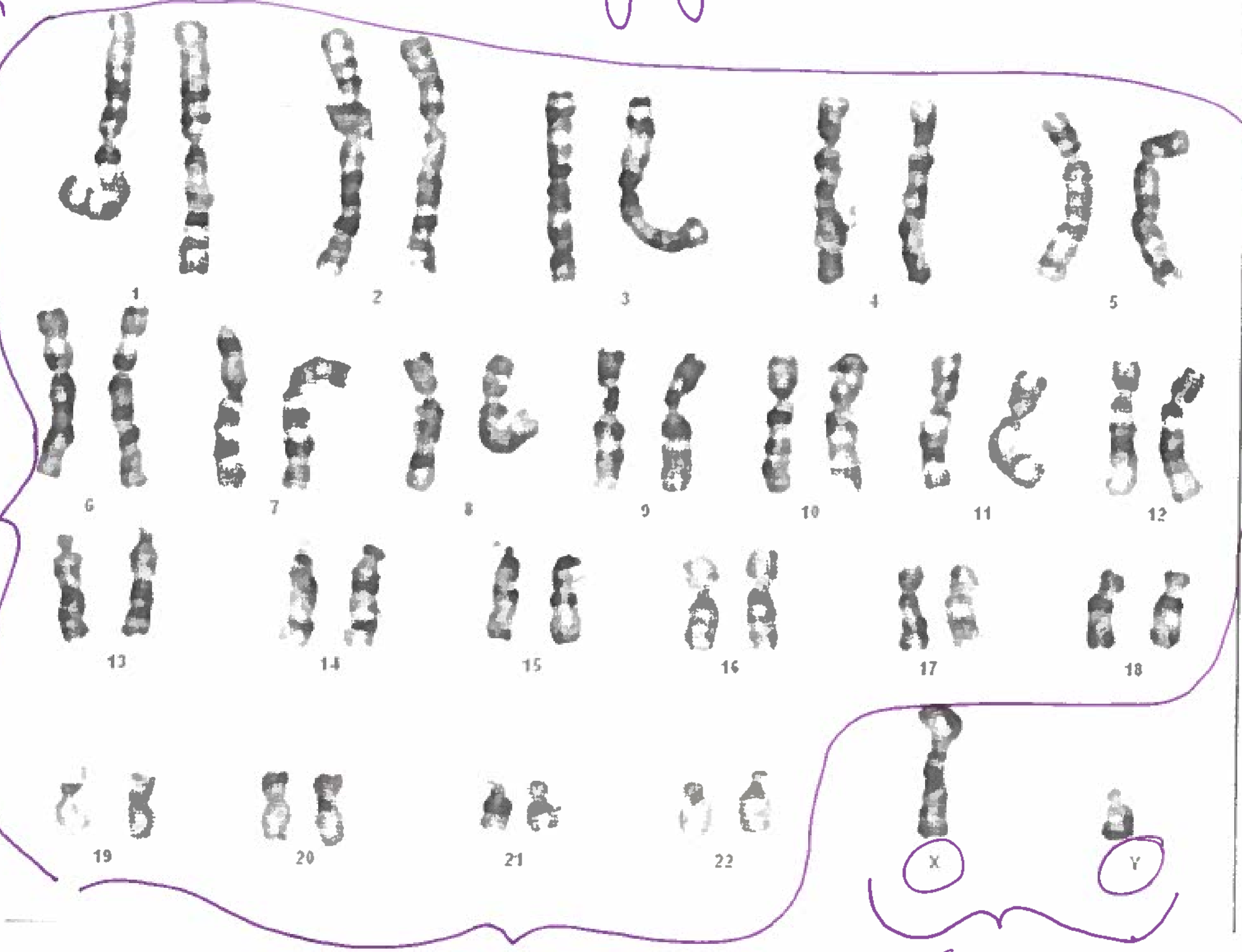
Ex: Hemophilia → the person does not have the ability to clot their blood. → Bleed to death

Polygenetic (many) Traits → Interaction of multiple pairs of genes. (which you get from your parents)

Ex: Hair color, eye color, height, skin tone.

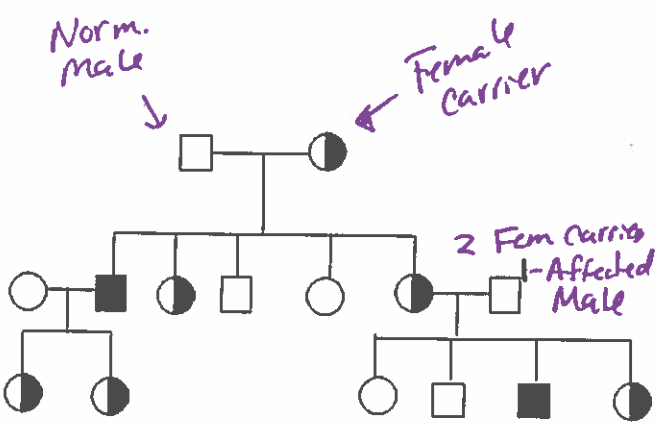
Karyotype

44 autosomes → 22 pairs (XY chromosome)

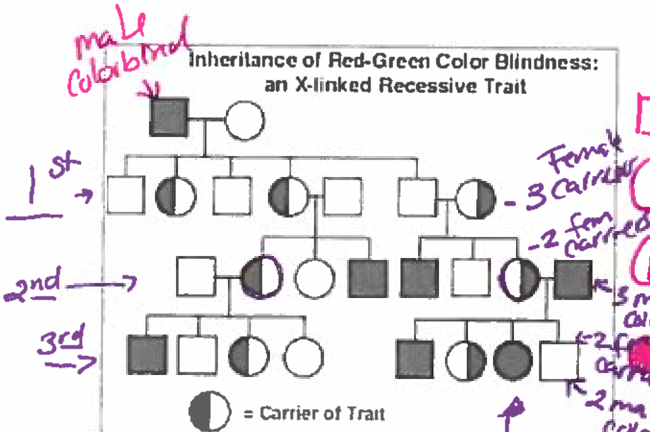


Male — 46 chromosomes

Sex Chromosomes
Gender



3 - female carriers
1 - Affected male



Female

Norm.
□ - Male

Norm.
○ - Female

- Carrier Female

- Colorblind Female

- Colorblind Male