

Human Genome

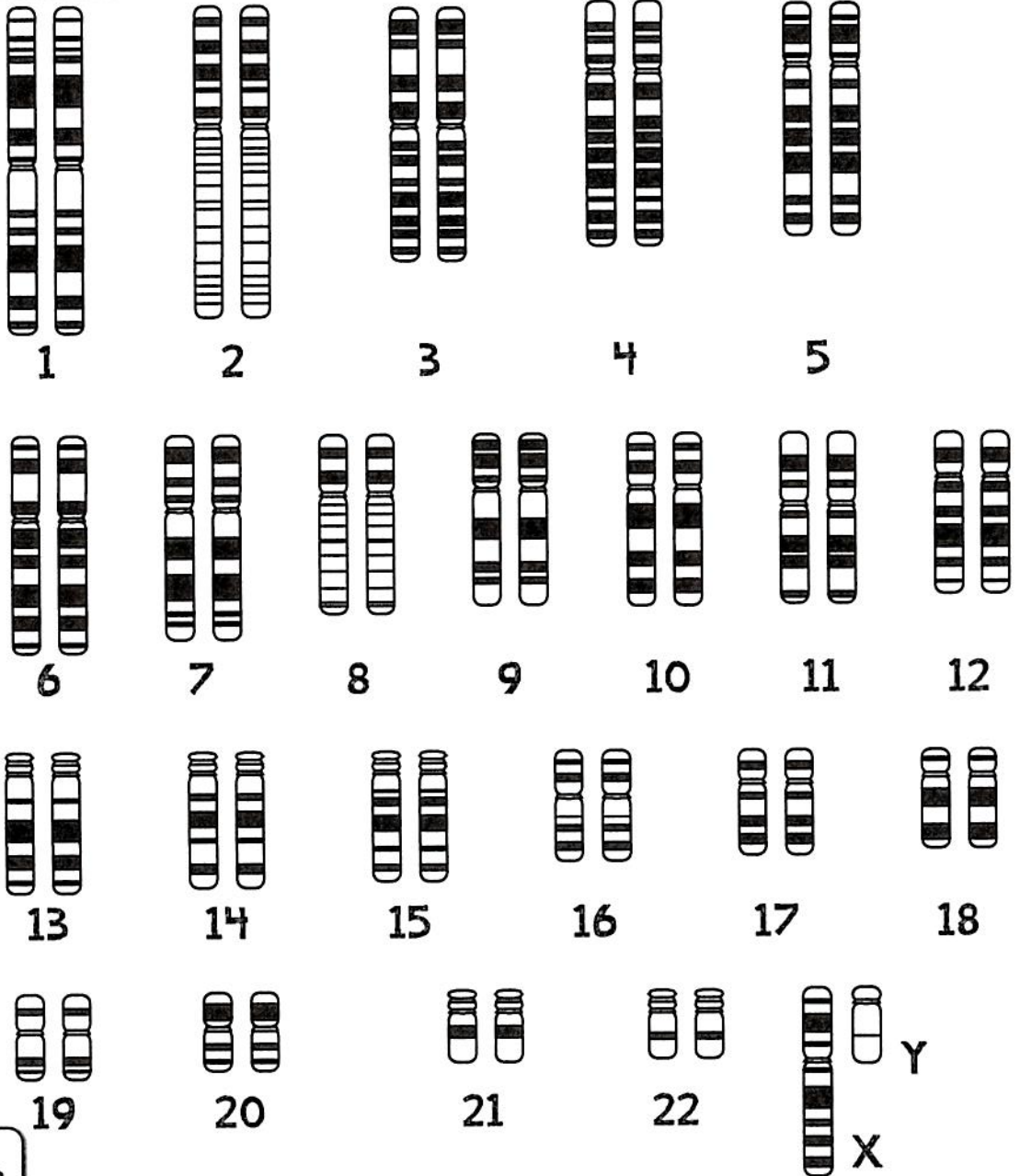
- has ____ pairs of chromosomes (____ total)
- Each chromosome pair has sets of _____ that are different from the other chromosomes.
- Each chromosome is _____ for survival, except the ____ chromosome.

Karyotyping:

- Process where chromosomes are _____ and examined under a _____ to look at chromosome _____ and _____

HUMAN KARYOTYPE

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Sex Determination

- The twenty-third pair is the ____ pair and usually determines biological ____ in humans.
- The presence of a specific genetic region on the ____ chromosome determines _____. Most human males have an ____ and a ____ chromosome.
- Most human females have two ____ chromosomes.

Aneuploidy

• When an organism or cell is aneuploid, it means it has an _____ chromosome or is missing one.

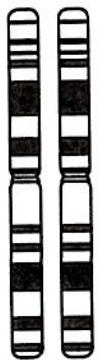
• Aneuploidy is diagnosed by _____.

• _____ is the condition where the

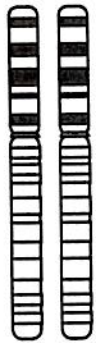
organism or cells have _____ chromosome.

- All trisomies come with significant _____.
- Some humans are born with trisomy-____, ____, ____ or ____.
- Trisomy-21 is the cause of _____.
- XXY individuals have _____.

Trisomy



1



2



3



4



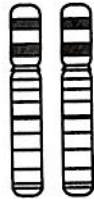
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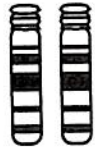
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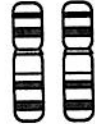
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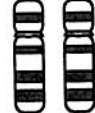
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19



20



21



22



Y

X

ATYPICAL KARYOTYPES

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What Causes Aneuploidy?

- Random mistakes in _____ can occur.
- The egg or sperm can have the wrong _____ of chromosomes.

Monosomy

- The only known survivable monosomy is _____. Some females have been born and have lived with only one _____.