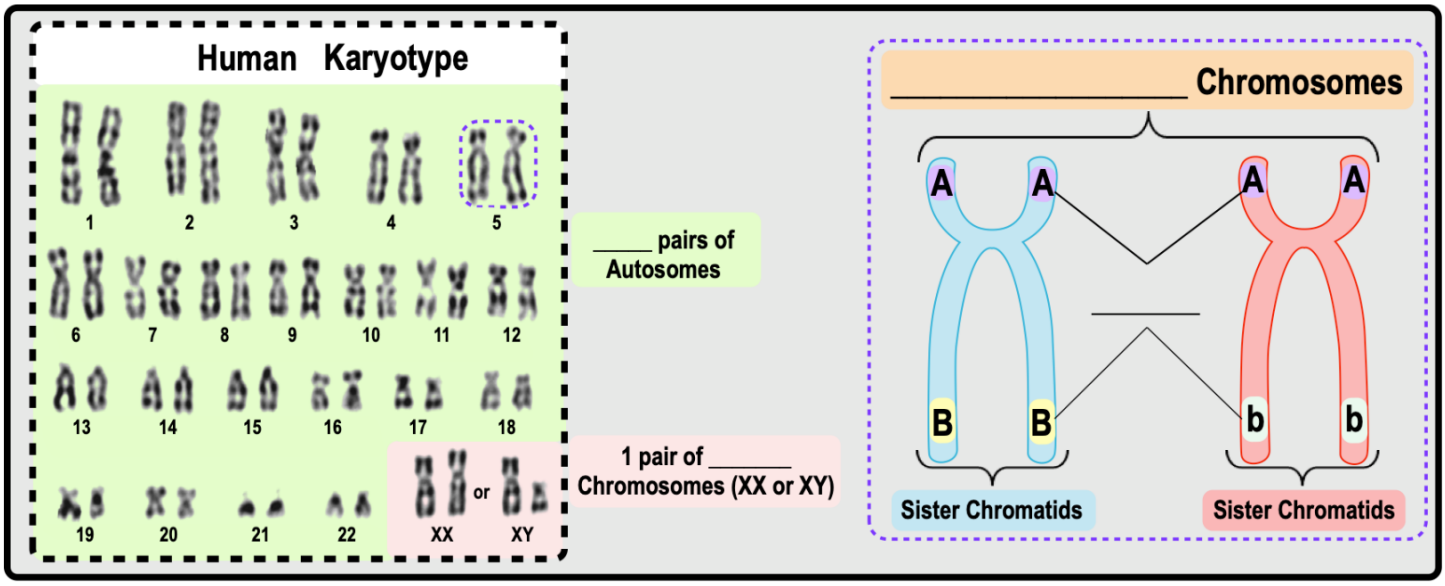
CONCEPT: HOMOLOGOUS CHROMOSOMES

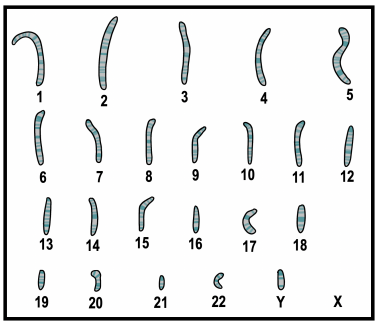
- _____: an ordered display of all chromosomes in a cell.
- Human somatic cells contain _____ pairs of chromosomes (for a total of 46).
  - □ _____ pairs of **autosomes:** non-sex chromosomes that are found in both males & females.
  - □ _____ pair (X & Y chromosomes) are _____ *chromosomes* that determines the sex of the organism.
  - □ Female (♀): X _____ □ Male (♂): X _____
- **Homologous Chromosomes:** pairs *similar* in size/shape & carry the same genes but can have different _____.
  - □ Within each homologous chromosome pair, one is *paternally* inherited & the other is *maternally* inherited.

EXAMPLE: Karyotype of the 23 human chromosome pairs.



PRACTICE: The human karyotype shown below:

a) Is of a haploid cell.
b) Is from a gamete.
c) Shows 23 chromosomes.
d) All of the above.



PRACTICE: How might the two members of a pair of homologous chromosomes differ from each other?

a) In the sequence of the DNA making up each of the chromosomes.
b) In the relative position of the genes present on each of the chromosomes.
c) They cannot differ if they are homologous.
d) In the kinds of genes present on each of the chromosomes