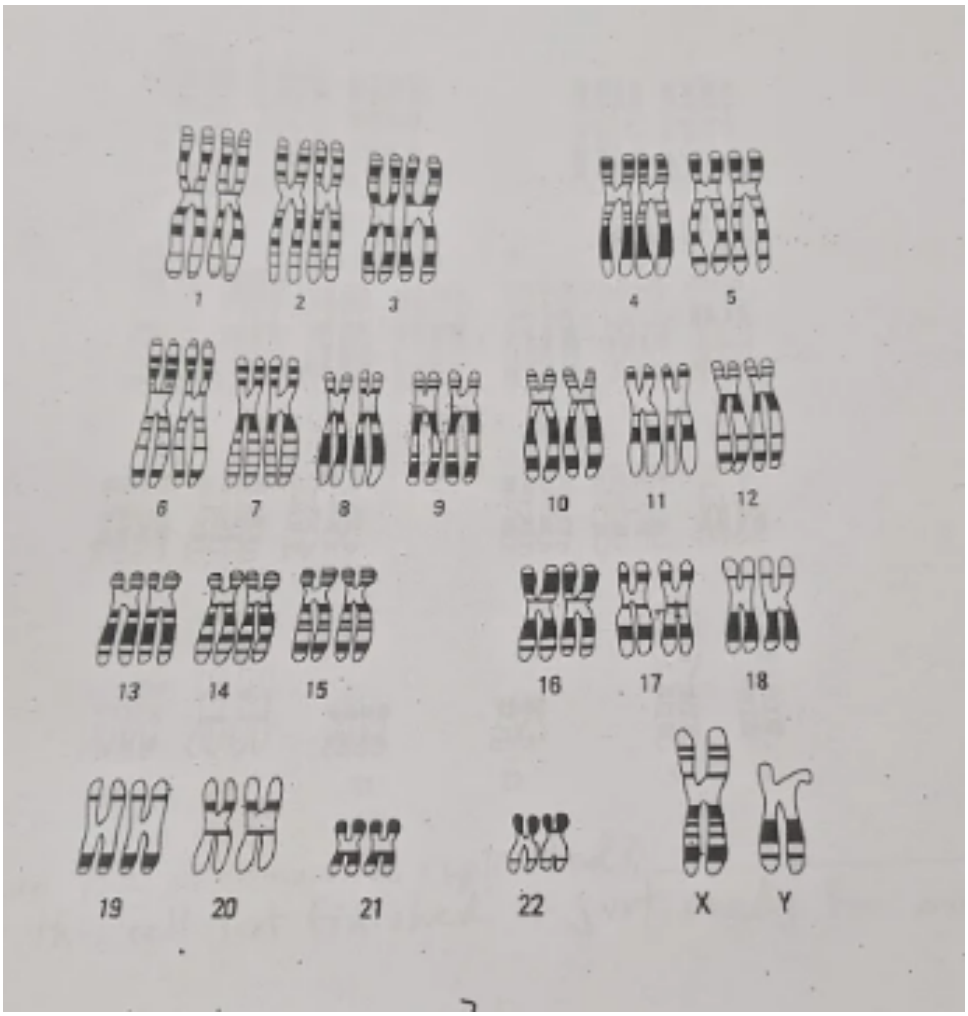
Karyotype Assignment- SBI3U 2021 TM



Looking at the Karyotype above answer the following questions:

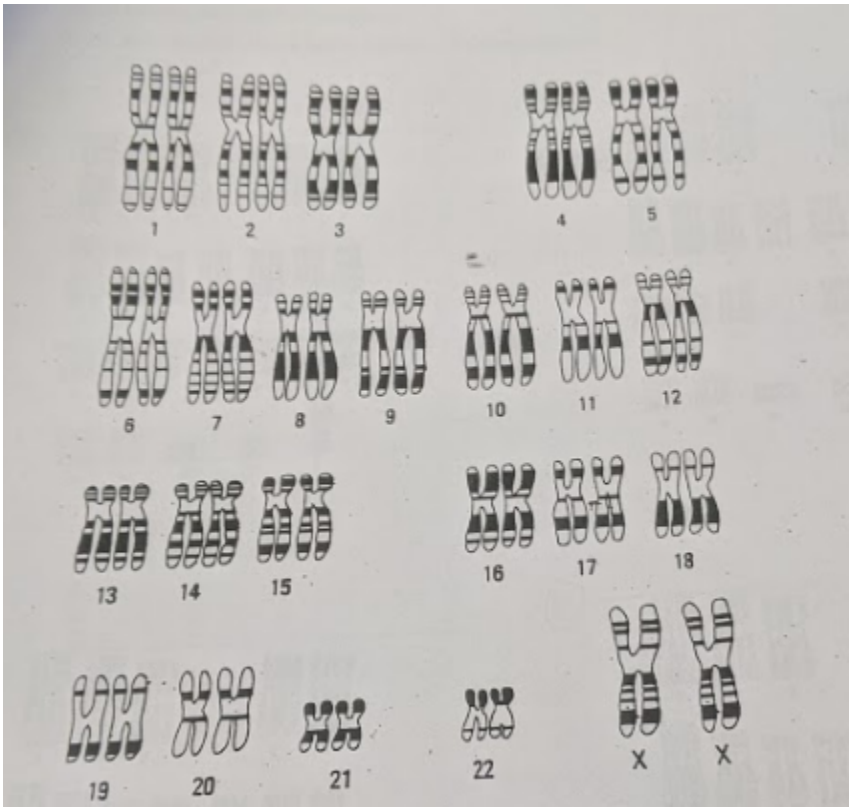
1- How many chromosomes in total are there? [1]
46 chromosomes, or 23 pairs of chromosomes

2- How many homologous pairs of chromosomes? [1]
22

3- What is the person's sex? [1] male

4- Is this a somatic cell or a gamete? [1] somatic

5-Does this person have a trisomy? [1] No



Looking at the Karyotype above answer the following questions:

1. Are the chromosomes replicated? [1]
   yes
2. Has this cell just finished or is it about to go through mitosis? [1]
   about to go through

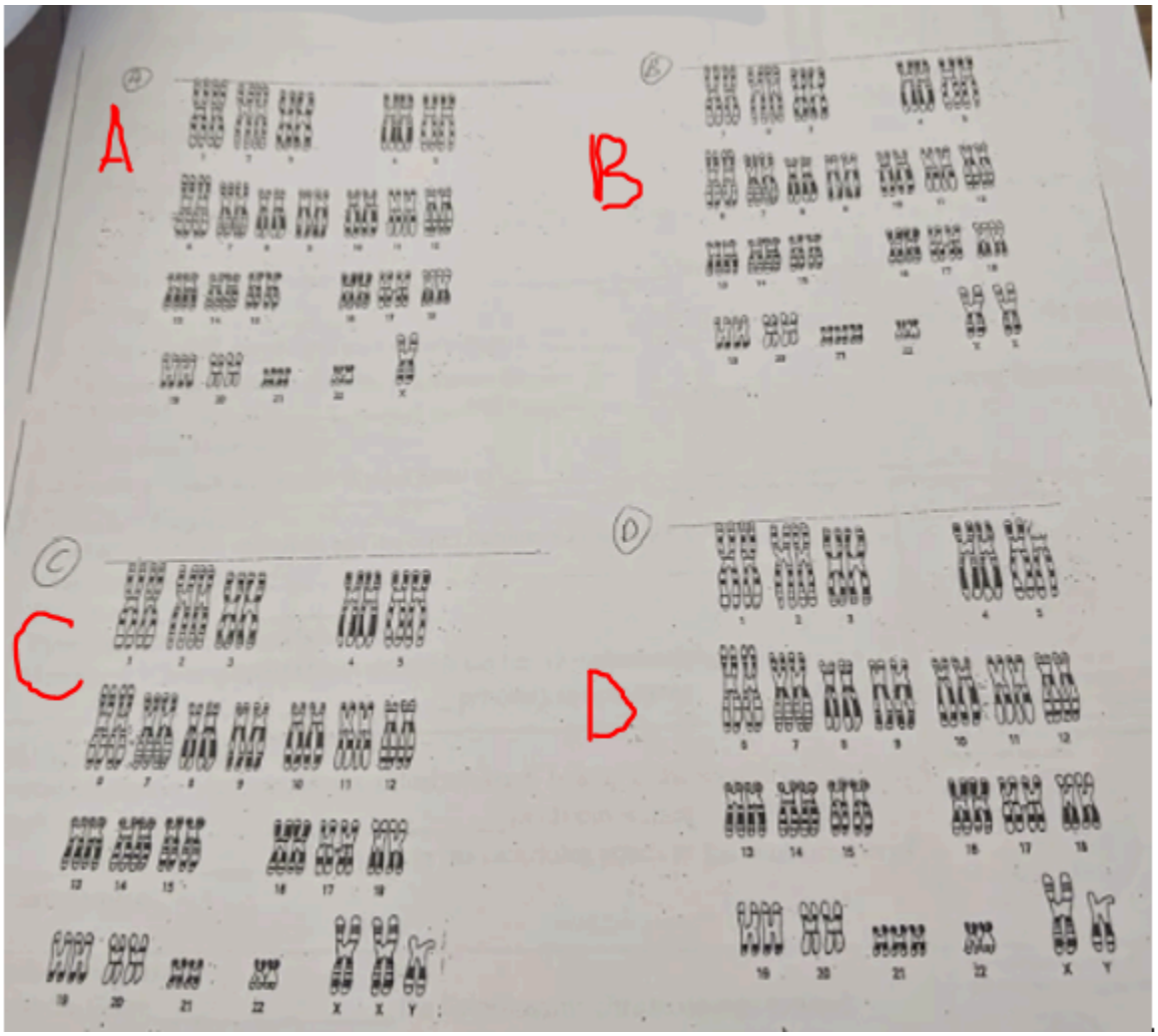
   a) Explain[1]
   chromosomes are diploid replicated, will become diploid unreplicated through the process of mitosis

3. What is the person's sex? [1] female

4. What are 3 ways to match homologous chromosomes? [3]

centromere position, size, banding pattern

For the following karyotypes, identify the karyotype (A, B, C, or D), and list the chromosome # associated with the mutation.



1. Which karyotypes(s) show a trisomy? (3 copies of a chromosome)

   C, B, D

   b) Which chromosome is affected for the karyotype?

   c=23rd pair (sex chromosome), B=21, D=21

2. Which karyotypes(s) show a monsomy? (missing a copy of a chromosome)
   A

   b) Which chromosome is affected for the karyotype?

   23rd pair,sex chromosome

3. Which karyotype(s) show a partial deletion?
   D

   b) Which chromosome is affected for the karyotype?

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