

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

## Outcome Practice: KARYOTYPING

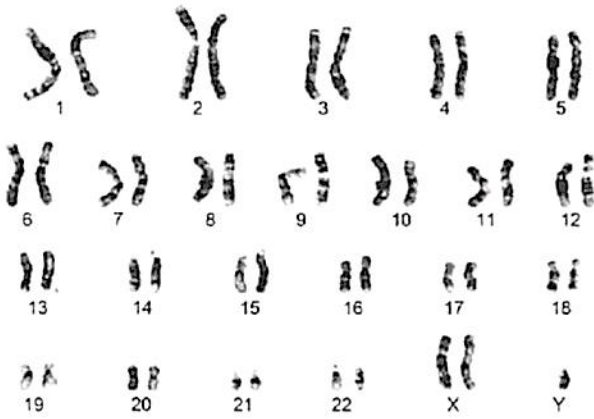
Chromosomal Makeup	Clinical Condition
46 (XX)	Normal Female
46 (XY)	Normal Male
Trisomy 13	Patau Syndrome. Multiple congenital anomalies; fatal by 1 year in most cases.
Trisomy 18	Edwards' Syndrome. Multiple congenital anomalies; fatal by 3 months in most cases.
Trisomy 21	Down Syndrome. <i>Mentally Challenged</i> and distinctive facial characteristics (eg. skin fold at inner corners of eyes)
XXY	Klinefelter Syndrome. Male appearance; testes underdeveloped, breasts enlarged. Usually sterile; often <i>mentally challenged</i> .
XO	Turner Syndrome. Female, anatomically & physiologically; rudimentary ovaries, no menstruation or ovulation (YO male condition does not seem to be viable, none have been identified).
XXX, XXXX, XXXXX, XXXY, & XXXXY	Multiple Sex Chromosomes. Some degree of mental <i>challenges</i> ; some degree of anatomical or physiological abnormality, or both. Individuals may be fertile; may produce normal offspring.
D-G- Translocation	Robertsonian Translocation. Small fragments are broken off one 15 (D) and one 21 (G) chromosome, and the damaged chromosomes fuse together. Individuals in which this occurs will be normal themselves, but will produce some gametes containing both the D-G translocation and chromosome 21 (G). If such a gamete is involved in zygote formation, the embryo will be affected with trisomy 21.
G-G- Translocation	Similar to the D-G translocation (chromosome 22 is involved instead of chromosome 15).
Partial deletion short arm B	Cri-du-chat syndrome. Rounded, moonlike faces; feeble, plaintive catlike cries; mental and physical <i>Challenges</i> .
Partial deletion short arm 18	Found in cases of mental <i>challenges</i> and congenital malformations.
Partial deletion long arm G	Philadelphia chromosome. Found in patients with chronic myeloid leukemia. Involves one 22 (G) chromosome.
Partial deletion long arm Y	Found in some cases of infertility.



1. What is the gender of this patient?

2. Does this patient have any of the disorders listed on the table above? Explain how you know.

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_



3. What is the gender of this patient?

4. Does this patient have any of the disorders listed on the table on the previous page? Explain how you know.



5. What is the gender of this patient?

6. Does this patient have any of the disorders listed on the table on the previous page? Explain how you know.



7. What is the gender of this patient?

8. Does this patient have any of the disorders listed on the table on the previous page? Explain how you know.

9. Are the chromosomes shown in this picture homologous chromosomes? Explain your answer.

