**Introduction:**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Summarize the purpose of this exercise in one sentence.
2. G-banding is used to visualize the chromosomes. Describe what is being stained in order to debunk the common misconception that each band is a single gene.
3. What three characteristics are used to analyze and pair up the chromosomes in order to create the karyotype?

**Patient Histories**: Follow the directions to drag the chromosomes to their proper locations on the karyotypes to completes them for Patients A, B and C. Answer the following questions.

1. Record patient A’s history / symptoms.
2. What notation would you use to characterize Patient A's karyotype?

*(Hint: Read “interpreting the Karyotype”)*

1. What diagnosis would you give patient A?
2. Record patient B’s history / symptoms.
3. What notation would you use to characterize Patient B's karyotype?
4. What diagnosis would you give patient B?
5. What inference can be made about this condition when comparing the patient’s diagnosis and history / symptoms record?
6. Record patient C’s history / symptoms.
7. What notation would you use to characterize Patient C's karyotype?
8. What diagnosis would you give patient C?
9. What inferences can be made about this condition when comparing the patient’s diagnosis and history / symptoms?
10. Use the internet to look up the following chromosomal abnormalities and fill out the rest of the table:

|  |  |  |
| --- | --- | --- |
|  | Chromosomal Abnormality | Phenotype (Symptoms) |
| Turner Syndrome  |  |  |
| Down Syndrome  |  |  |
| XYY syndrome |  |  |
| Triple-X syndrome |  |  |
| Klinefelter syndrome |  |  |