

CHROMOSOMES

VOCABULARY REVIEW

1. During cell division, the DNA in a eukaryotic cell is tightly packed and coiled into structures called _____.
2. Between cell divisions, the DNA in a eukaryotic cell is uncoiled and spread out; in this form it is called _____.
3. An organism's reproductive cells, such as sperm or egg cells, are called _____.
4. The two exact copies of DNA that make up each chromosome are called _____.
5. The two chromatids of a chromosome are attached at a point called the _____.
6. _____ chromosomes are similar in size, shape, and genetic content.
7. When a cell contains two sets of chromosomes, it is said to be _____.
8. When a cell contains one set of chromosomes, it is said to be _____.
9. A photo of the chromosomes in a dividing cell, arranged by size, is a(n) _____.
10. Chromosomes not directly involved in determining the sex of an individual are known as _____.
11. Humans have 46 chromosomes in all cells except sperm and egg cells. How many of these chromosomes are autosomes?
12. If an organism has a diploid, or $2n$, number of 16, how many chromosomes do its sperm cells or eggs cells contain?

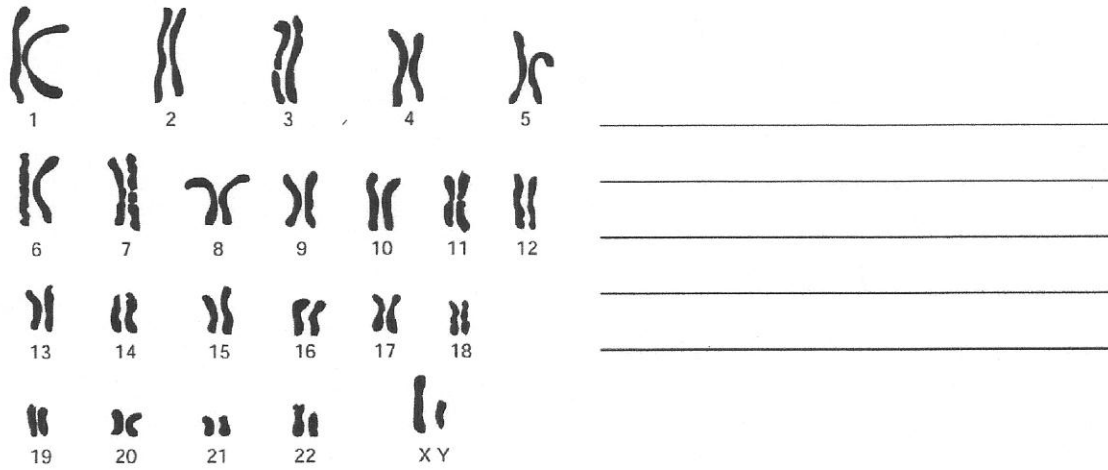
SHORT ANSWER Answer the questions in the space provided.

1. What role do proteins play in enabling the enormous amount of DNA in a eukaryotic cell to fit into the nucleus, and what are those proteins called?

2. Compare prokaryotic chromosomes with eukaryotic chromosomes.

3. In what ways are homologous chromosomes similar?

4. What is the picture below called, and how is it used to determine the sex of a person?



5. What would be the consequence for future generations of cells if sperm and egg cells were normally diploid?

STRUCTURES AND FUNCTIONS The diagram below shows structures isolated from the nucleus of a dividing eukaryotic cell. Label each structure or pair of structures in the space provided.

