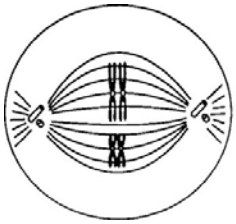


Name_____ Date _____ Period _____

Meiosis Guided Reading Unit 6.3 (Chapter 11.4)

1. _____ are the carriers of genes.

2. Humans have 46 chromosomes. How many chromosomes does a fruit fly have? _____

3. A pair of chromosomes in which one set comes from the male parent and the other corresponding set comes from the female parent is said to be _____.

4. The diploid cells of most adult organisms contain _____
_____
_____

5. _____ cells contain only a single set of chromosomes.

6. _____ means "one set"
_____ means "two sets"

7. Haploid gamete cells can be represented by the symbol "N." How is a diploid cell represented?
_____

8. A human's diploid number can be written as 2N=46. How can our haploid number be written?
_____ = _____

9. Define meiosis: _____
_____

10. What are the two distinct divisions of meiosis called?
_____ & _____

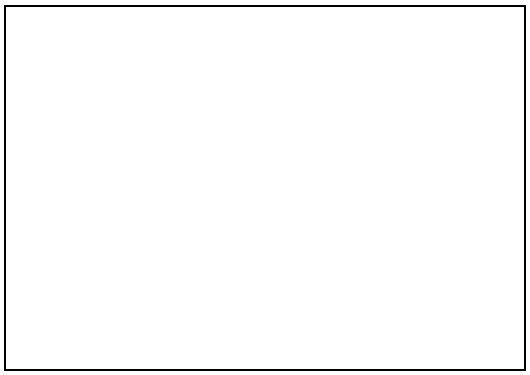
11.
    a. What process occurs during Prophase I? _____
    b. What does this event produce? _____
    c. Why is this important? _____

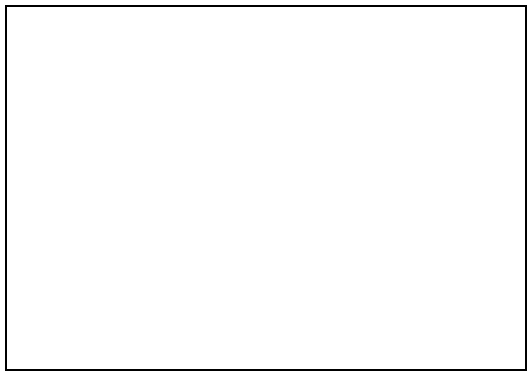
12. Draw a tetrad undergoing the process of crossing over.

13. What lines up across the center of the cell during metaphase I? _____
_____

14. Draw a cell in the following phases, labeling **homologous chromosomes** and **chromatids**:

Anaphase I **Anaphase II**





15.

a. What is the final product of meiosis II? _____
b. How is this different from the result of meiosis I? _____
_____

16. In your own words, distinguish between a gamete and a zygote: _____
_____
_____

17. Look at Figure 11-17. Describe two differences between mitosis and meiosis.

a) _____
b) _____

Describe two similarities between mitosis and meiosis.

c) _____
d) _____

18. Mitosis can be a form of _____ reproduction, whereas meiosis is an early step in _____ reproduction.

19. Meiosis reduces the chromosome number by _____ while mitosis maintains the chromosome number of the original cell.

20. What did Thomas Hunt Morgan determine in 1910 regarding gene linkage? _____
_____
_____
_____

21. It is not individual genes that independently assort, but the _____

22. What does a gene map show?
_____
_____

23. Circle the correct answer: The farther apart two genes are on a chromosome, the **more/less** likely they are to have crossing-over occur.