Name: _____

Review Meiosis - Practice

Use your Expectation Sheet received today and your class work to answer the following and complete the multiple choice.

MIEOSIS QUESTIONS:

1. The purpose of meiosis is to increase _____ by creating gamete cells with _____ the number of chromosomes.
2. If an organism has somatic cells with 28 chromosomes, how many chromosomes will it have in its gamete cells? _____
3. If a male's sperm contains 12 chromosomes, how many chromosomes will one of his brain cells have? _____
4. What happens in Prophase 1 that leads to an increase in genetic diversity? _____
5. How does the chromosome number in gametes compare to the parent cell? _____
6. How many gamete cells will result from meiosis? _____
7. Meiosis is an example of _____ (asexual or sexual) reproduction.
8. How does crossing over contribute to offspring having genetic variation (different genes from each other)?

   _____

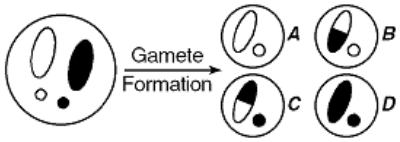
Answer the following multiple-choice questions: Try to answer them on your own before using your notes.

1. Which of the statements below is NOT true about meiosis?
   a. Meiosis occurs in reproductive cells
   b. Chromosomes do not exchange genetic information
   c. Chromosomes are pulled apart in anaphase
   d. Sperm and egg result from meiosis

2. Meiosis is the production of gametes. Each meiotic division results in
   a. Four diploid cells
   b. Four haploid cells
   c. Two diploid cells
   d. Two haploid cells

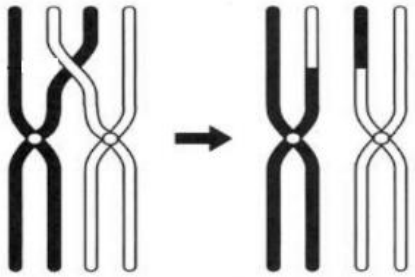
3. Which statement best explains the significance of meiosis?
   a. Meiosis provides for genetic variation
   b. Meiosis produces eggs and sperm that are alike
   c. Equal number of eggs and sperm are produced by meiosis
   d. The gametes produced by meiosis allow for asexual reproduction of a species

4. In the diagram below, which type of change most likely caused the new combination of traits in gametes B and C?



a. An alteration in the number of sugars in DNA
b. An alteration in the chemical composition of a gene
c. A change in the chromosome number due to nondisjunction
d. A change in the genetic material due to crossing over

5. A pair of homologous chromosomes is shown undergoing a process which occurs during prophase I of meiosis. The purpose of this process is-



A to provide genetic variation passed
B to provide gametes with two sets of chromosomes
C to make sure gametes survive
D to provide each new cell with a complete copy of an organism's DNA.

6. What process is necessary for the inherited traits of an organism to be passed along by sexual reproduction?

A mitosis
B meiosis
C fission
D mutation