Lesson 74: Meiosis Questions

1. What does it mean when two sets of chromosomes are homologous?

2. Which of these describes a diploid cell?
   a. 2N
   b. Contains two sets of homologous chromosomes
   c. Contains a single set of homologous chromosomes
   d. A gamete

3. If a *Drosophila* cell has a diploid number of 8, what is its haploid number?
   a. 8 b. 4 c. 2 d. 0

Phases of Meiosis

4. Why is meiosis described as a process of reduction division?

5. What are the two distinct stages of meiosis?

6. True or false: The diploid cell that enters meiosis becomes 4 haploid cells at the end of meiosis?

7. How does a tetrad form in prophase I of meiosis?

8. What is the number of chromatids in a tetrad?
   a. 8 b. 6 c. 4 d. 2

9. What is the result of the process of crossing-over during prophase I?

10. Circle the letter for **each** sentence that is true about meiosis.
    a. During meiosis I, homologous chromosomes separate.
    b. The two daughter cells produced by meiosis I still have the two complete sets of chromosomes as a diploid cell does.
    c. During anaphase II, the paired chromatids separate.
    d. After meiosis II, the four daughter cells contain the diploid number of chromosomes.

Gamete Formation
Match the products of meiosis with the descriptions.

eggs	sperm	polar bodies

11. Haploid gametes produced in males _____

12. Haploid gametes produced in females _____

13. Cells produced in females that do not participate in reproduction

    _____

14. Circle the letter for **each** sentence that is true about mitosis and meiosis.
    a. Mitosis produces four genetically different haploid cells.
    b. Meiosis produces two genetically identical diploid cells.
    c. Mitosis begins with a diploid cell.
    d. Meiosis begins with a diploid cell.