Meiosis

Meiosis I
1. Sister chromatids
2. Nucleus disappears
3. Homologous chromosomes
4. Spindle forms

Prophase I
1. Spindle fibers attach to centromeres
2. Homologous chromosomes line up in pairs

Metaphase I
1. Homologous chromosomes separate
2. Cell pinches in two

Anaphase I–Telophase I

Meiosis II
1. Chromosomes still made up of sister chromatids
2. Spindle forms

Prophase II
1. Spindle fibers attach to centromeres
2. Chromosomes line up

Metaphase II
2. Nucleus reforms

Anaphase II–Telophase II
1. Sister chromatids separate
3. Cells pinches into two

Four sex cells
1. How does the number of chromosomes in a sex cell compare with that in the parent cell?

2. If the number of chromosomes in the skin cells of an organism is 28, what is the number of chromosomes in the organism’s egg cells?

3. How many cells are produced at the end of meiosis II?

4. In which phase of meiosis does crossing over occur? What results from this process?

5. Describe the activity of chromosomes in metaphase I of meiosis. How does this activity differ from the activity of chromosomes in metaphase of mitosis?

6. In which phase of meiosis II does the cytoplasm divide?

7. Explain why mitosis could not provide for the sexual reproduction of offspring that contain the same number of chromosomes as the parents.