**BIOL 161 Meiosis and Sexual Reproduction**
Chpt 10, Biology, 10th ed

## 10.1 Halving the chromosome number

I. Introduction

A. Meiosis is the nuclear division that reduces the chromosome number from _____ (2n) to _____ (n).

B. The _____ number refers to the complete number of chromosomes in a cell.

C. The _____ number refers to half the diploid number of chromosomes.

D. Which cells in the body have the haploid number of chromosomes?

E. If sperm fertilizes egg, the resulting one-celled structure is called a _____.

F. Would this one-celled structure have a haploid or diploid number of chromosomes?

G. Why should gametes have a haploid number of chromosomes?

II. **Homologous Pairs of Chromosomes**

A. In a somatic cell, the chromosomes come in pairs, like pairs of socks. For instance, human cells have 23 pairs of chromosomes. What are these pairs called?

B. Do the genes on one homologue have to be identical to the gene at the same location on the other homologue?

C. You have 23 pairs of chromosomes in any body cell, as stated previously. The pairs are numbered 1, 2, 3, 4, 5, 6….23. How did you get the chromosomes for each pair?

III. **Overview of meiosis**

A. Meiosis requires _____ nuclear divisions (called Meiosis I and Meiosis II) and produces _____ daughter cells.

B. The parent cell that divides by meiosis contains a _____ number of chromosomes.

C. The daughter cells contain a _____ number of chromosomes.

D. Are the daughter cells genetically identical to the parent cell?

E. Prior to meiosis I, what had happened to the DNA?

1. Therefore, how many sister chromatids per chromosome are visible during prophase I?