

## Chapter 13 Meiosis and Sexual Life Cycles: Practice Test

### Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

#### Self-Quiz Questions

- \_\_\_\_\_ 1. A human cell containing 22 autosomes and a Y chromosome is
- a somatic cell of a male.
  - a zygote.
  - a somatic cell of a female.
  - a sperm cell.
  - an ovum.
- \_\_\_\_\_ 2. Homologous chromosomes move to opposite poles of a dividing cell during
- mitosis.
  - meiosis I.
  - meiosis II.
  - fertilization.
  - binary fission.
- \_\_\_\_\_ 3. Meiosis II is similar to mitosis in that
- homologous chromosomes synapse.
  - DNA replicates before the division.
  - the daughter cells are diploid.
  - sister chromatids separate during anaphase.
  - the chromosome number is reduced.
- \_\_\_\_\_ 4. If the DNA content of a diploid cell in the  $G_1$  phase of the cell cycle is  $x$ , then the DNA content of the same cell at metaphase of meiosis I would be
- $0.25x$
  - $0.5x$
  - $x$ .
  - $2x$ .
  - $4x$ .
- \_\_\_\_\_ 5. If we continued to follow the cell lineage from question 4, then the DNA content at metaphase of meiosis II would be
- $0.25x$ .
  - $0.5x$ .
  - $x$ .
  - $2x$ .
  - $4x$ .
- \_\_\_\_\_ 6. How many different combinations of maternal and paternal chromosomes can be packaged in gametes made by an organism with a diploid number of 8 ( $2n = 8$ )?
- 2
  - 4
  - 8
  - 16
  - 32
- \_\_\_\_\_ 7. The immediate product of meiosis in a plant is a
- spore.