Name Period Date

CHAPTER 6

MEIOSIS AND MENDEL

Chapter Test A

Blizzard Bag #1
Biology

Multiple Choice

Choose the letter of the best answer. *(15 credits)*

____ **1.** Two similar chromosomes that you inherit from your parents (one from your mother, one from your father) are called

a. homologous chromosomes.
b. sister chromatids.
c. sex chromosomes.
d. homozygous alleles.

____ **2.** Meiosis produces cells with how many chromosomes?

a. 44
b. 22
c. 46
d. 23

____ **3.** Which of the following cell types is diploid?

a. ovum
b. sex cell
c. somatic cell
d. gamete

____ **4.** A distinguishing characteristic that can be inherited is a(n)

a. cross.
b. allele.
c. gene.
d. trait.

____ **5.** Which of the following phrases describes the Punnett square in Figure 6.1?

	S	s
S	SS	Ss
s	Ss	ss

FIG. 6.1

a. 1/4 probability of heterozygous offspring
b. monohybrid heterozygous-heterozygous cross
c. 3/4 probability of homozygous offspring
d. dihybrid heterozygous-heterozygous cross

____ **6.** Which of the following statements is true of homozygous alleles?

a. They are always inherited together.
b. They are different forms of the same trait.
c. They are identical forms of the same gene.
d. They are identical forms of two different genes.

____ **7.** Which law states that organisms inherit two copies of each gene and donate one copy to each of their offspring?

a. law of genetic linkage
b. law of segregation
c. law of independent assortment
d. law of inheritance

Short Answer Use the diagram below to answer items 16–20. *(5 credits)*

Diagram 1

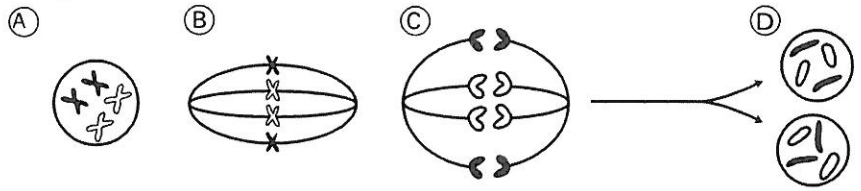

Diagram 2

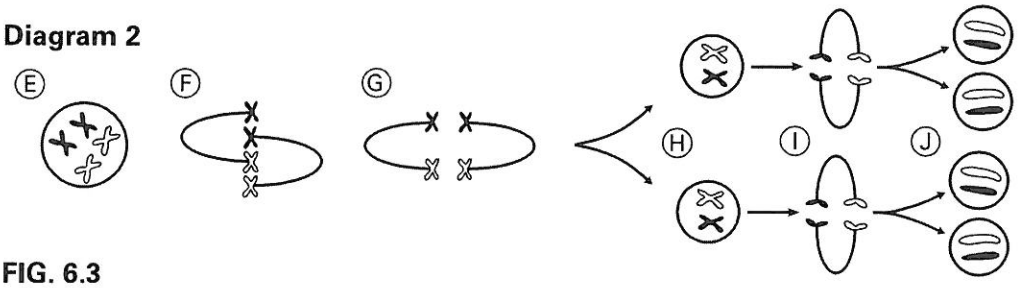

FIG. 6.3

16. Which diagram in Figure 6.3 shows the process of meiosis? How do you know?

17. Identify the process shown in diagram 1. Describe one way the process in diagram 1 is different from the process in diagram 2.

18. Write the letter that corresponds to the part of Figure 6.3 that shows the division of sister chromatids.

19. Write the letter that corresponds to the cells in the diagram that are haploid. How are these cells different from the cells in part D of the diagram?

20. Describe the process shown in part G of the diagram. How does it contribute to genetic diversity in all sexually reproducing organisms?