

Biology EOC Review 6

Meiosis

Multiple Choice

Write the letter that best answers the question or completes the statement.

1. A kidney cell is an example of which type of cell?
A sex cell
B germ cell
C somatic cell
D haploid cell
2. How many chromosomes are in a human gamete?
A 46
B 23
C 22
D 44
3. Which of the following best describes the genetic material a person receives from his or her father?
A 22 pairs of homologous chromosomes and an X and Y chromosome
B 22 haploid cells and an X or Y chromosome
C 23 diploid cells and an X and Y chromosome
D 22 autosomes and an X or Y chromosome
4. Which phrase best describes the process of meiosis?
A occurs in body cells
B results in genetically identical cells
C happens only in haploid cells
D produces haploid gametes
5. At fertilization, what happens to the sex cells?
A They retain half of their chromosomes.
B Half of the cells copy their DNA twice.
C Their nuclei fuse to form one nucleus.
D One becomes an egg, and one becomes a sperm cell.
6. Which of the following statements is true of homologous chromosomes?
A They are exact copies.
B They contain the same genes.
C They divide during meiosis II.
D They connect to each other.
7. Which phrase best describes meiosis I?
A duplication of paired chromosomes
B fusion of sister chromatids
C division of homologous chromosomes
D creation of two diploid cells
8. What happens to sister chromatids in meiosis II?
A They are divided.
B They duplicate.
C They remain together.
D They do not take part.
9. Gametogenesis is the term for
A the fertilization of eggs.
B the production of gametes.
C the development of polar bodies.
D the movement of sperm.
10. What does an egg contribute to the embryo that a sperm does not contribute?
A polar bodies
B germ cells.
C organelles.
D DNA.
11. Which of the following is an example of a biological trait?
A personality
B hair style
C eye color
D regional accent
12. When crossing-over takes place, chromosomes
A mutate in the first division.
B produce new genes.
C decrease in number.
D exchange segments of DNA.

13. Crossing-over occurs
- A during prophase II.
 - B during fertilization.
 - C during prophase I.
 - D at the centromere.
14. Mendel was able to identify predictable patterns of heredity. He succeeded mainly because he chose to study traits that
- A were always dominant.
 - B tended to be recessive.
 - C could be diluted.
 - D had only two forms.
15. Which phrase best describes the term *genome*?
- A the genetic makeup of a chromosome
 - B the genes that make up an organism
 - C the location of a specific set of genes
 - D the sum of an organism's physical traits
16. The term for a cross that involves just one trait, such as pod shape, is called a
- A homozygous cross.
 - B test cross.
 - C monohybrid cross.
 - D dihybrid cross.
17. Hair color and eye color are examples of a person's
- A recessive traits.
 - B dominant alleles.
 - C genotype.
 - D phenotype.
18. When an organism has two alleles at a particular locus that are different, the organism is called
- A purebred.
 - B dominant.
 - C heterozygous.
 - D recessive.
19. If a pea plant were homozygous recessive for height, how would its alleles be represented?
- A Tt
 - B TT
 - C tt
 - D tT
20. An allele is dominant in a heterozygote when it is
- A expressed and the other allele is not.
 - B a very common allele in a population.
 - C the stronger of the two alleles.
 - D more desirable than the other allele.
21. What do the letters inside the grid of a Punnett square represent?
- A phenotypes of parents
 - B genotypes of parents
 - C testcrosses of offspring
 - D chromosomes of parents
22. What is the probability that the offspring of a cross between a homozygous recessive parent and a heterozygous parent will be homozygous recessive?
- A 1/1
 - B 1/2
 - C 1/4
 - D 1/8
23. What is the phenotypic ratio of a monohybrid cross between two heterozygous parents?
- A 3:1
 - B 1:2:1
 - C 9:3:3:1
 - D 1:2:2:1
24. Meiosis produces cells with how many chromosomes?
- A 44
 - B 22
 - C 46
 - D 23
25. Which of the following cell types is diploid?
- A ovum
 - B sex cell
 - C somatic cell
 - D gamete