

Chapter 10: Sexual Reproduction and Genetics

Chapter Test Practice

1. The process by which haploid gametes combine is called _____.
 - ☐ A) interphase
 - ☐ B) fertilization
 - ☐ C) genetic variation
 - ☐ D) synapsis
2. Crossing over results in _____.
 - ☐ A) the removal of genotypes from a zygote
 - ☐ B) less genetic variation
 - ☐ C) fewer combinations of genes
 - ☐ D) greater genetic variation
3. Diploids contain twice the number of chromosomes found in a single _____.
 - ☐ A) gamete
 - ☐ B) zygote
 - ☐ C) protein molecule
 - ☐ D) synapse
4. Homologous chromosomes separate during which phase(s) of meiosis?
 - ☐ A) interphase
 - ☐ B) anaphase I
 - ☐ C) telophase I
 - ☐ D) interphase and telophase I
5. Meiosis produces _____ in gametes.
 - ☐ A) enzymes

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- ☐ B) identical daughter cells
- ☐ C) forty-six chromosomes
- ☐ D) genetic variation

6. Polyploidy is the occurrence of one or more extra sets of ____ in an organism.

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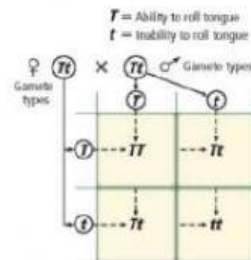
- ☐ A) chromosomes
- ☐ B) zygotes
- ☐ C) phenotypes
- ☐ D) diploids

7. The observable expression of an allele pair is called a ____.

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- ☐ A) recessive gene
- ☐ B) genotype
- ☐ C) monohybrid cross
- ☐ D) phenotype

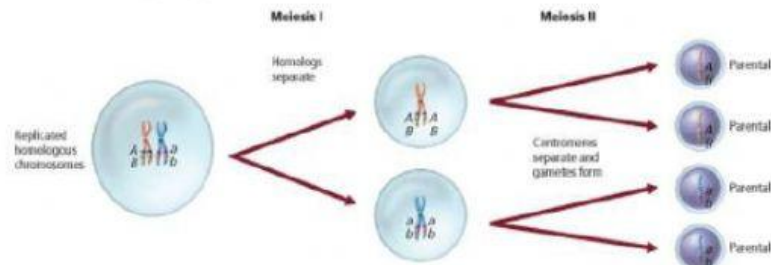
8. What does the TT represent in this Punnett square?



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- ☐ A) a genotype consisting of two dominant alleles
- ☐ B) a heterozygous trait
- ☐ C) a single allele
- ☐ D) a genotype consisting of two recessive alleles

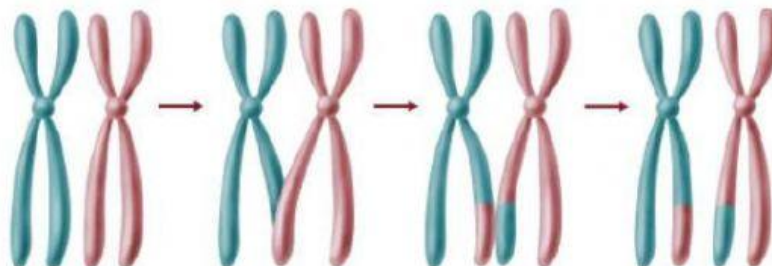
9. What does this figure represent?



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- ☐ A) gene linkage during meiosis
- ☐ B) gene segregation during gamete formation
- ☐ C) gene segregation during meiosis
- ☐ D) formation of a single parent cell

10. What process does this figure show?



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- ☐ A) protein synthesis
- ☐ B) replication of DNA
- ☐ C) chromosomal segment exchange
- ☐ D) mitosis

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11. What technique did Mendel use to better understand inherited traits?
- ☐ A) removed dominant alleles
 - ☐ B) cross pollinated same-sex plants
 - ☐ C) allowed plants to self-fertilize
 - ☐ D) cross pollinated male and females
12. Which of these applies to genetic recombination?
- ☐ A) no formula can calculate gene combinations
 - ☐ B) genes are prevented from combining
 - ☐ C) gene combinations are produced by crossing over
 - ☐ D) involves glucose production
13. Which of these pertains to Mendel's law of independent assortment?
- ☐ A) observable characteristics of a trait
 - ☐ B) separation of alleles during meiosis
 - ☐ C) random distribution of alleles
 - ☐ D) protein production
14. Which statement is not true of genes located close together on the same chromosome?
- ☐ A) They travel together during gamete formation.
 - ☐ B) They always segregate independently.
 - ☐ C) They are linked together.
 - ☐ D) They do not segregate independently.
15. Which statement pertains to Mendel's law of segregation?
- ☐ A) Homozygous organisms are called hybrids.
 - ☐ B) Two alleles for each trait separate during meiosis.
 - ☐ C) Allele pairs are called a genotype.
 - ☐ D) Dominant traits are visible.