

Assessment

# Chapter Test

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## Mendel And Heredity

In the space provided, write *T* if the statement is true or *F* if it is false.

- \_\_\_\_\_ 1. Gregor Mendel's pea plant experiments were very important in establishing some basic patterns of inheritance.
- \_\_\_\_\_ 2. Heterozygous individuals have two of the same alleles for a particular gene.
- \_\_\_\_\_ 3. In order for a child to inherit a recessive trait, both parents must be carriers of the recessive gene.
- \_\_\_\_\_ 4. An autosomal trait appears equally in both males and females.

In the space provided, write the letter of the term or phrase that best completes each sentence or answers each question.

- \_\_\_\_\_ 5. When two different alleles occur together, the one that is expressed is called  
a. dominant.  
b. phenotypic.  
c. recessive.
- \_\_\_\_\_ 6. An organism that has inherited two of the same alleles of a gene from its parents is \_\_\_\_\_ for that trait.  
a. hereditary  
b. a mutation  
c. homozygous
- \_\_\_\_\_ 7. The law of segregation states that  
a. alleles of a gene separate from each other during gamete formation.  
b. different alleles of a gene can never be found in the same organism.  
c. each gene of an organism ends up in a different gamete.
- \_\_\_\_\_ 8. The law of independent assortment applies only to genes that are  
a. sex-linked.  
b. located on different chromosomes or are far apart on the same one.  
c. located on the same chromosome only.

Chapter Test *continued*

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- \_\_\_\_\_ 9. Albinism
- a. is caused by a recessive allele.
  - b. gives resistance to malaria infections.
  - c. is very common throughout the world.
- \_\_\_\_\_ 10. If a characteristic is X-linked, it
- a. occurs mostly in males.
  - b. occurs only in females.
  - c. is always fatal.
- \_\_\_\_\_ 11. Which of the following is an example of codominance?
- a. many different flower colors in plants
  - b. two traits of a character expressed at the same time
  - c. an intermediate or blended flower color in a plant

**Using the word bank below, fill in each blank provided.**

alleles	F <sub>1</sub>	sex-linked
character	probability	traits

12. When sperm and egg cells come together during fertilization, the resulting offspring have two \_\_\_\_\_ for each character.
13. When two members of the P generation are crossed, the offspring are referred to as the \_\_\_\_\_ generation.
14. Different forms of a particular character are called \_\_\_\_\_.
15. The likelihood that a specific event will happen is called \_\_\_\_\_.
16. An inherited feature is called a(n) \_\_\_\_\_.
17. A gene found only on the X chromosome is said to be a(n) \_\_\_\_\_ gene.

Chapter Test *continued*

Questions 18–20 refer to the figure below, which shows a cross between two rabbits. In rabbits, black fur (**B**) is dominant to brown fur (**b**). In the space provided, write the letter of the term or phrase that best completes each sentence or answers each question.

		<b>B</b>	<b>b</b>
<b>Bb</b> × <b>Bb</b>	<b>B</b>	1	2
	<b>b</b>	3	4

- \_\_\_\_\_ 18. The model illustrated above, which is used to organize genetic information, is called a
- Mendelian box.
  - genetic graph.
  - Punnett square.
- \_\_\_\_\_ 19. The fur in both the parents in the cross is
- black.
  - brown.
  - tan.
- \_\_\_\_\_ 20. The phenotype (things you can observe) of the offspring in Box 3 would be
- brown.
  - black.
  - mixed.

**Match the words on the left with the statements on the right.**

- |   |  |
|---|--|
| <p>_____ 21. polygenic character</p> <p>_____ 22. incomplete dominance</p> <p>_____ 23. character influenced by the environment</p> <p>_____ 24. X chromosome</p> | <p>a. a fox's fur color changing according to seasons</p> <p>b. a character controlled by several genes</p> <p>c. leads to intermediate phenotypes</p> <p>d. carries most sex-linked genes</p> |
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