

- 1 What did Gregor Mendel do to study different characteristics in his genetics experiments?
- A He studied only asexual plants.
 - B He studied only tall and short pea plants.
 - C He cross-pollinated plants.
 - D He cross-pollinated both plants and animals.
- 2 What does the notation TT mean to geneticists?
- A two dominant alleles
 - B heterozygous alleles
 - C at least one dominant allele
 - D one dominant and one recessive allele
- 3 What is the probability of producing a tall pea plant from a genetic cross between two hybrid tall pea plants?
- A one in four
 - B two in four
 - C three in four
 - D four in four
- 4 What does a Punnett square show?
- A all the possible outcomes of a genetic cross
 - B only the dominant alleles in a genetic cross
 - C only the recessive alleles in a genetic cross
 - D all of Mendel's discoveries about genetic crosses
- 5 A purebred chicken with white feathers is crossed with a purebred chicken that has black feathers. Each of their offspring has both black and white feathers. Why does this happen?
- A Both alleles for feather color are dominant.
 - B Both alleles for feather color are recessive.
 - C The alleles for feather color are neither dominant nor recessive.
 - D Several alleles work together to determine the trait.

- 6 What is the chromosome theory of inheritance?
- A Chromosomes are carried from parents to offspring on hybrids.
 - B Genes are carried from parents to offspring on chromosomes.
 - C Hybrid pairs of chromosomes combine to form offspring.
 - D Codominant genes combine to form new hybrids.
- 7 What happens during meiosis?
- A Two sex cells combine.
 - B Chromosome pairs separate and are distributed into new sex cells.
 - C Each sex cell copies itself to form four new chromosomes.
 - D Chromosome pairs remain together when new sex cells are formed.
- 8 Which term refers to physical characteristics that are studied in genetics?
- A traits
 - B offspring
 - C generations
 - D hybrids
- 9 An organism's genotype is its
- A genetic makeup.
 - B feather color.
 - C physical appearance.
 - D stem height.
- 10 Which of the following traits is influenced by both inheritance and environmental factors?
- A the ability to sing well
 - B the ability to cough
 - C natural hair color
 - D dyed hair color

- 11 In Mendel's experiments, what proportion of the plants in the F_2 generation had a trait that had been absent in the F_1 generation?
- A none
 - B one fourth
 - C half
 - D three fourths
- 12 Factors that control traits are called
- A genes.
 - B purebreds.
 - C recessives.
 - D parents.
- 13 Scientists call an organism that has two different alleles for a trait a
- A hybrid.
 - B dominant.
 - C purebred.
 - D factor.
- 14 What does the notation Tt mean to geneticists?
- A two dominant alleles
 - B two recessive alleles
 - C homozygous alleles
 - D one dominant allele and one recessive allele
- 15 What is probability?
- A the actual results from a series of events
 - B a number that describes how likely it is that an event will occur
 - C the way the results of one event affect the next event
 - D the number of times a coin lands heads up

- 16 If a homozygous black guinea pig (BB) is crossed with a homozygous white guinea pig (bb), what is the probability that an offspring will have black fur?
- A 25 percent
 - B 50 percent
 - C 75 percent
 - D 100 percent
- 17 An organism's physical appearance is its
- A genotype.
 - B phenotype.
 - C dominance.
 - D allele.
- 18 Walter Sutton discovered that the sex cells of grasshoppers have
- A 12 times the number of chromosomes found in the body cells.
 - B twice the number of chromosomes found in the body cells.
 - C the same number of chromosomes found in the body cells.
 - D half the number of chromosomes found in the body cells.
- 19 When sex cells combine to produce offspring, each sex cell will contribute
- A one fourth the number of chromosomes in body cells.
 - B half the number of chromosomes in body cells.
 - C the normal number of chromosomes in body cells.
 - D twice the number of chromosomes in body cells.
- 20 The different forms of a gene are called
- A alleles.
 - B factors.
 - C masks.
 - D traits.

21 An organism that has two identical alleles for a trait is

- A a phenotype.
- B tall.
- C homozygous.
- D heterozygous.

22 A heterozygous organism has

- A three different alleles for a trait.
- B two identical alleles for a trait.
- C only one allele for a trait.
- D two different alleles for a trait.

23 Chromosomes are made up of

- A one pair of alleles.
- B a phenotype and a genotype.
- C male and female sex cells.
- D many genes joined together.