10

Student: ____

1. In the genotype Aabb,
   A. A is a dominant allele.
   B. a and b are alleles of each other.
   C. A and b are at the same locus.
   D. A and a are dominant genes.

2. Different forms of the same gene are referred to as
   A. loci.
   B. alleles.
   C. homozygotes.
   D. hybrids.

3. A gene that can be masked by another gene is called
   A. pleiotropy.
   B. dominant.
   C. incompletely dominant.
   D. recessive.

4. A locus is
   A. an alternative form of the gene for a particular characteristic.
   B. the gene that, when present with its allele, expresses itself.
   C. the spot on a chromosome where an allele is located.
   D. the concept that a number of different pairs of alleles may combine their efforts to determine a characteristic.

5. A condition in which a diploid organism has different allelic forms of a particular gene is the definition of
   A. homozygous.
   B. phenotype.
   C. genotype.
   D. heterozygous.

6. A heterozygous condition would be characterized by the possession of alleles for
   A. red hair.
   B. red hair and red hair.
   C. brown hair.
   D. brown hair and red hair.

7. A homozygous recessive condition is
   A. aa.
   B. Aa.
   C. AA.
   D. AaBb.

8. The expression of a gene is called
   A. probability.
   B. phenotype.
   C. genotype.
   D. pleiotropy.

9. A homozygous condition would be the possession of alleles for
   A. red hair and blonde hair.
   B. red hair and red hair.
   C. brown hair and black hair.
   D. brown hair and red hair.

10. If I^A and I^B dominate *i*, which phenotype indicates the genotype when the alleles I^A and *i* are present?

   A. type A blood
   B. type B blood
   C. type AB blood
   D. All of these answers are correct.

11. A male has a genotype RrTt. What is the probability of his producing Rt sperm cells?
   A. 0%
   B. 25%
   C. 50%
   D. 100%

12. When two dice are thrown, both dice will show the number three
   A. one in two times.
   B. one in six times.
   C. one in thirty-six times.
   D. one in four times.

13. The chances of guessing the right answer to this question are
   A. 1/1.
   B. 1/2.
   C. 1/3.
   D. 1/4.

14. In a fifty-two card deck, the chances of drawing the only ace of spades are
   A. 1/4.
   B. 1/52.
   C. 1/13.
   D. 1/26.

15. In pea plants, smooth seeds (S) are dominant over wrinkled seeds (S). A cross is made between a wrinkled-seed variety and a heterozygous smooth-seed variety. The chance of getting offspring homozygous for smooth seeds is
   A. 0/4.
   B. 1/4.
   C. 1/2.
   D. 1/1.

16. In fruit flies normal wings are dominant over vestigial wings. If a homozygous normal-winged fly and vestigial-winged fly were crossed, what would the phenotype of the fly offspring be?
   A. all vestigial-winged
   B. all normal-winged
   C. three normal: one vestigial-winged
   D. one normal-winged: two half-winged: one vestigial-winged

17. In humans, normal vision dominates color-deficiency, and both are X-linked. (The genes are located on the X chromosome.) A color-deficient male marries a woman who is heterozygous for normal vision. If they have a boy, the chance that he will be color-deficient is
   A. 100%.
   B. 0%.
   C. 75%.
   D. 50%.

18. In humans, the genes for blood type A and B show lack of dominance to one another and both dominate O. Two type O people would be able to have
    A. 1 O: 1 A: 1 B: 1 AB type children.
    B. only O type children.
    C. 1 O: 1 A type children.
    D. only AB type children.

19. In humans, normal skin dominates albino skin; a cross between two albino people results in
    A. two normal and two albino.
    B. all normal.
    C. all albino.
    D. three albino and one normal.

20. The probability of parents with the genotypes (Mm) × (Mm) having an offspring with the genotype (mm) is
    A. 1/2.
    B. 1/4.
    C. 3/8.
    D. 0.

21. The probability of parents with the genotypes (Ll) (ll) having an offspring with the genotype (ll) is
    A. 1/2.
    B. 1/4.
    C. 3/8.
    D. 0.

22. The sex of mammals is determined by
    A. the autosomes they receive.
    B. the type of sex chromosomes received.
    C. the number of recessive chromosomes received.
    D. None of these answers is or may be a factor.

23. The typical human male has
    A. 22 pairs of chromosomes.
    B. 22 pairs of chromosomes and two Y chromosomes.
    C. 22 pairs of chromosomes and one X and one Y chromosome.
    D. 23 X or 23 Y chromosomes.

24. Which of the following represents the sex chromosomes of a typical human female?
    A. XY
    B. XXX
    C. XO
    D. XX

25. The Y chromosome is in the
    A. egg.
    B. egg or sperm.
    C. polar body.
    D. sperm.

26. The sex chromosomes determine the sex of mammals and are
    A. female, YX; male, XX.
    B. female, Y; male, X.
    C. female, X; male, XX.
    D. female, XX; male, XY.

27. If a sperm containing an X chromosome fertilizes an egg, the child will normally be
    A. a girl.
    B. a boy.
    C. twins, a boy and a girl.
    D. twin boys.

28. When a gene has the ability to influence several different aspects of the phenotype of an organism, this is referred to as
    A. polygenic inheritance.
    B. pleiotropy.
    C. multiple alleles.
    D. lack of dominance.

29. A gene found on the X chromosome is a(n)
    A. female gene.
    B. X-linked gene.
    C. dominant gene.
    D. locus.

30. If one pair of genes could cause some flowers to have red petals or yellow petals and could also determine the strength of the stem, this would be an example of
    A. polygenic inheritance.
    B. pleiotropy.
    C. recessiveness.
    D. hybrid.

31. A case of more than one gene influencing one phenotypic characteristic is called
    A. pleiotropy.
    B. polygenic inheritance.
    C. X-linked.
    D. monohybrid.

32. In fruit flies, long wing (L) is dominant, vestigial wing (l) is recessive, gray body (G) is dominant, ebony body (g) is recessive. Two fruit flies were mated that were long-winged with gray bodies. The genotype of these two parental flies is LlGg × LlGg. What proportion of the offspring flies would have long wings and gray bodies?
    A. All offspring would be long-winged with gray bodies.
    B. Nine-sixteenths of the offspring would be long-winged with gray bodies.
    C. Three-fourths of the offspring would be long-winged with gray bodies.
    D. Seven-sixteenths of the offspring would be long-winged with gray bodies.

33. Smooth fur dominates rough fur; black and white fur are incompletely dominant and result in gray. A rough gray crossed with a rough gray would produce
    A. all rough gray.
    B. 1/2 rough black, 1/2 rough white.
    C. 1/2 rough black, 1/4 rough gray, 1/4 rough white.
    D. 1/4 rough black, 1/2 rough gray, 1/4 rough white.

34. Brown eyes (B) dominate blue eyes (b); black hair (H) dominates blond hair (h). In order to have an offspring ratio of 1/4 brown eyes, black hair, 1/4 brown eyes, blond hair, 1/4 blue eyes, black hair, and 1/4 blue eyes, blond hair, the genotype of the parents would have to be
    A. bbHh × Bbhh.
    B. bbhh × BbHh.
    C. Bbhh × bbHh.
    D. All of these answers are true.

35. The trait for color dominates albino, and black fur dominates red fur. If an animal homozygous for color and heterozygous for black fur is crossed with an albino homozygous for red, the ratio of offspring would be
A. 1/2 red, 1/2 black.
B. all albino.
C. all red.
D. 1/2 albino, 1/4 black, 1/4 red.

36. If the many offspring of a double-factor cross always have both recessive traits,
A. one parent was homozygous dominant for both traits.
B. both parents were homozygous dominant for both traits.
C. one parent was homozygous recessive for both traits.
D. both parents were homozygous recessive for both traits.

37. In pea plants, a gene R produces red flowers and is dominant to a gene r, which produces white flowers. A gene T produces tall plants and is dominant to a gene t for short plants. If a plant that is homozygous for red flowers and heterozygous for tallness is crossed with a plant that is short and white, what will be the phenotypic ratio of the offspring?
A. one tall red:one short red
B. nine tall red:three short red:three tall white:one short white
C. three tall red:one short red:one tall white
D. one short white:two short red:one tall white

38. The sex of the fruit fly *Drosophila melanogaster* is determined as follows: XX chromosomes give a female and XY give a male. The gene for bar eyes is recessive and located on the X chromosome. If two bar-eyed flies are mated, what percentage of the offspring will have bar eyes?
A. none
B. 25%
C. 50%
D. 100%

39. The sex of the fruit fly *Drosophila melanogaster* is determined as follows: XX chromosomes give a female and XY give a male. The gene for bar eyes is recessive and located on the X chromosome. If a male with normal eyes is mated with a female who has normal eyes but is heterozygous,
A. all of the female offspring will have bar eyes.
B. 1/2 the offspring will have bar eyes.
C. 1/2 the males will have bar eyes.
D. none of the offspring will have bar eyes.

40. The sex of the fruit fly *Drosophila melangaster* is determined as follows: XX chromosomes give a female and XY give a male. The gene for bar eyes is recessive and located on the X chromosome. If you had a normal-eyed female and did not know whether she was homozygous or heterozygous, you could determine her genotype by mating her with
A. any kind of male.
B. normal-eyed males only.
C. bar-eyed males only.
D. homozygous, bar-eyed males only.

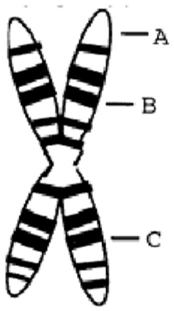
41. Human skin color is thought to be determined by at least three pairs of alleles. If dark skin (D) is dominant to light skin (d), the genotypes that will produce the darkest skin are
A. D^1d^1 D^2d^2 D^3d^3.
B. D^1D^1 D^2d^2 d^3d^3.
C. d^1d^1 D^2D^2 D^3d^3.
D. D^1d^1 D^2d^2 D^3D^3.

42. The information within the central squares of a Punnett square represents
   A. parental genotypes.
   B. parental gametes.
   C. offspring genotypes.
   D. gamete phenotypes.

43. In the cross AaBb × AaBb, ____ of the offspring will express ___.
   A. 1/16; both dominant traits
   B. 3/16; one dominant and one recessive trait
   C. 6/16; one dominant and one recessive trait
   D. 3/16; both recessive traits

44. Two genes located on the **same** chromosome are
   A. homologous.
   B. homozygous.
   C. linked.
   D. autosomes.

45. According to the diagram, genes ______ are most likely to be inherited together and genes ______ are least likely to be inherited together.



   A. A and B; A and C
   B. A and B; B and C
   C. B and C; A and C
   D. A and C; A and B

46. Which of the following does NOT express one of Mendel's laws?
   A. When two different alleles are present for a given trait, the expression of one will mask the expression of the other.
   B. Alleles separate during the formation of sex cells.
   C. During the formation of sex cells, members of one gene pair separate from one another independently of members of other gene pairs.
   D. Genes located on the same chromosome have a greater tendency of being inherited together than do genes located on different chromosomes.

47. Offspring with four phenotypes in a 1:1:1:1 ratio can be produced by
   A. AaBb × AaBb.
   B. AABB × AaBb.
   C. AaBa × AABb.
   D. AaBb × aabb.

48. A single dominant gene that produces abnormal connective tissue causes Marfan syndrome. Individuals with the condition exhibit symptoms such as nearsightedness, long thin appendages, and a weak aorta. Marfan syndrome is an example of
   A. polygenic inheritance.
   B. pleiotropy.
   C. multiple alleles.
   D. lack of dominance.

49. The allele that causes Huntington's disease is expressed earlier in life when it is inherited from the father than when it is inherited from the mother. Huntington's disease is an example of
A. an X-linked trait.
B. pleiotropy.
C. gene imprinting.
D. linkage.

50. In humans, eye color is determined by the amount of melanin in the iris of the eye and is probably controlled by several genes. The inheritance of eye color is an example of
A. multiple alleles.
B. pleiotropy.
C. polygenic inheritance.
D. gene imprinting.

51. In fruit flies the gene for vestigial wings will produce tiny underdeveloped wings at room temperature but will produce normal wings at higher temperatures. The vestigial condition in fruit flies is determined by
A. heredity and environment.
B. pleiotropy.
C. linkage.
D. gene imprinting.

52. A red-eyed female fruit fly is crossed with a red-eyed male fruit fly. All of the female offspring have red eyes but only one-half of the male offspring are red-eyed. The other half of the male offspring have white eyes. In this example, eye color in fruit flies
A. is influenced by the environment.
B. is an X-linked trait.
C. is controlled by several genes.
D. exhibits lack of dominance.

53. Nearly two dozen different alleles for the same gene can determine eye color in fruit flies. This is an example of
A. multiple alleles.
B. polygenic inheritance.
C. pleiotropy.
D. incomplete dominance.

54. In a cross between two blue Andalusian chickens, 25% of the offspring produced were white, 25% where black, and 50% were blue Andalusian like the parents. Color in these chickens is most likely inherited by
A. multiple alleles.
B. polygenic.
C. pleiotropy.
D. incomplete dominance.

55. In humans, a gene for free earlobes dominates a gene for attached earlobes. These alternative forms of a gene for earlobe shape are examples of
A. loci.
B. genomes.
C. alleles.
D. pleiotropy.

56. In pea plants, green pod color dominates yellow pod color. If a pea plant with yellow pods is crossed with a pea plant heterozygous for pod color, _____ of the offspring will have yellow pods.
A. 25%
B. 50%
C. 75%
D. 100%

57. The possible combinations of alleles in the gametes of an individual with the genotype aaBb are
A. AB, Ab, aB, ab.
B. aa, Bb.
C. aB, ab.
D. aa, ab, aB.

58. Skin color and height are inherited by
A. polygenic inheritance.
B. lack of dominance.
C. multiple alleles.
D. pleiotropy.

59. A woman heterozygous for blood type A and a man with blood type AB are expecting a child. The probability of the child having type B blood is
A. 0.
B. 1/4.
C. 1/2.
D. 3/4.

60. In snapdragons, FR = red flowers and FW = white flowers. Plants heterozygous for flower color have pink flowers. A cross between two pink-flowered plants will produce ____ red-flowered plants.
A. 100%
B. 75%
C. 50%
D. 25%

61. Color blindness is a recessive sex-linked trait. If a man with normal color vision and a woman who is a carrier for the color blindness trait have a son, what is the probability that he will be color-blind?
A. 0%
B. 25%
C. 50%
D. 100%

62. A man who does not suffer from sickle-cell anemia but is a carrier of the sickle-cell trait is married to a woman who is also a carrier for the sickle-cell trait. If they have a child, there is a ____ probability of that child suffering from sickle-cell anemia.
A. 0%
B. 25%
C. 50%
D. 100%

63. If the parents of a child have the following genotypes [Bb × Bb], what is the probability that they will have a child with the genotype [Bb]?
A. 100%
B. 50%
C. 25%
D. 0%

64. If an individual has the genotype BbCc, how many different kinds of gametes can that individual produce?
A. one
B. two
C. three
D. four

65. There are three alleles for blood type, IA and IB are both dominant to iO but IA is not dominant to IB. A man has type O blood. A woman has type A blood but her father had type B blood. If this man and this woman have children what are the possible genotypes of the offspring?
A. iOiO and IAiO
B. iOiO and IBiO
C. iOiO only
D. IAIB and IBiO

66. If the parents of a child have the following genotypes [Bb × Bb], what is the probability that they will have a child with the genotype [BB]?
A. 100%
B. 50%
C. 25%
D. 0%

67. If an individual has the genotype BbCC, how many different kinds of gametes can that individual produce?
A. one
B. two
C. three
D. four

68. The gene for color blindness is a recessive allele located on the X chromosome. If a color-blind man and a color-blind woman have one son and three daughters, how many will be color-blind?
A. all children will be color-blind
B. only the one son will be color-blind
C. only the three daughters will be color-blind
D. none of the children will be color-blind

69. If in houseflies the allele for green eyes is dominant over the allele for white eyes, and a heterozygous green-eyed male is mated with a white-eyed female, what is the probability that they will have green-eyed offspring?
A. 1/4
B. 1/2
C. 3/4
D. 4/4

70. If parents with the following genotypes (AABb × aaBb) have offspring, what is the probability that they will have an offspring with the genotype (AaBB)?
A. 1/4
B. 1/2
C. 3/4
D. 4/4

71. In fruit flies, males are determined by the presence of an X and Y chromosome; females are determined by two X chromosomes. The gene for eye color is located on the X chromosome and is absent from the Y chromosome. The allele for white eyes is recessive and the allele for red eyes is dominant. If a red-eyed male is mated with a white-eyed female, what is the probability that their male offspring will be white-eyed?
A. 100%
B. 50%
C. 25%
D. 0%

72. A research geneticist discovered that a particular trait is controlled by ______ she identified as B, b_1, b_2, b_3, b_4, b_5.
A. genes
B. alleles
C. phenotypes
D. genotypes

73. Humans have the diploid number of chromosomes, 2n = 46. This also indicates humans
A. have two genomes.
B. are more intelligent than worms.
C. have at least two genotypes that can result from fertilization.
D. have 23 chromosomes that are necessary for life.

74. "This patient with Marfan syndrome has really long fingers and toes, and is exceptionally tall." This is a statement describing
A. genotype.
B. phenotype.
C. monohybridization.
D. locus placement.

75. "She is a carrier of the cystic fibrosis trait." This statement acknowledges that this person is
A. homozygous for the trait.
B. heterozygous for the trait.
C. trisomic.
D. carrying two recessive alleles.

76. When an organism has two different alleles for a given trait, the allele that is expressed, overshadowing the expression of the other allele, is said to be
A. dominant.
B. recessive.
C. homozygous.
D. rare.

77. "Two out of three times, they will pass on the trait." This is a statement of
A. probability.
B. possibility.
C. certainty.
D. confusion.

78. "We are only going to trace this one trait from one generation to another." This statement would indicate that
A. the researcher is not sure of how this trait is inherited.
B. they will be developing a monohybrid (single factor) line.
C. multiple alleles are involved here.
D. a double-factor cross has been made.

79. When the two alleles C^R C^W are the genotype of an individual, that person displays features of both alleles. This is known as
A. polygenic inheritance.
B. multiple alleles.
C. complete recessiveness.
D. codominance.

80. Geneticists use this term when explaining how genetic information is converted into physical features of a cell or organism.
A. gene expression
B. gene replication
C. genetic mutation
D. genetic transcription

81. "She is a carrier of the cystic fibrosis trait." This statement acknowledges that this person
   A. is homozygous for the trait.
   B. is heterozygous for the trait.
   C. may be trisomic.
   D. has two recessive alleles.

82. Whether a honeybee larva will become a worker or a queen is largely determined by its diet. This is an example of
   A. environmental influences on gene.
   B. an epigenetic effect.
   C. change in genetic expression.
   D. all of the above are correct.

10 Key

1. In the genotype Aabb,
A. A is a dominant allele.
B. a and b are alleles of each other.
C. A and b are at the same locus.
D. A and a are dominant genes.

Blooms Level: 1. Remember
Enger - Chapter 10 #1
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Topic: Inheritance

2. Different forms of the same gene are referred to as
A. loci.
B. alleles.
C. homozygotes.
D. hybrids.

Blooms Level: 1. Remember
Enger - Chapter 10 #2
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.01
Topic: Inheritance

3. A gene that can be masked by another gene is called
A. pleiotropy.
B. dominant.
C. incompletely dominant.
D. recessive.

Blooms Level: 1. Remember
Enger - Chapter 10 #3
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Topic: Inheritance

4. A locus is
A. an alternative form of the gene for a particular characteristic.
B. the gene that, when present with its allele, expresses itself.
C. the spot on a chromosome where an allele is located.
D. the concept that a number of different pairs of alleles may combine their efforts to determine a characteristic.

Blooms Level: 1. Remember
Enger - Chapter 10 #4
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Topic: Inheritance

5. A condition in which a diploid organism has different allelic forms of a particular gene is the definition of
A. homozygous.
B. phenotype.
C. genotype.
D. heterozygous.

Blooms Level: 1. Remember
Enger - Chapter 10 #5
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Topic: Inheritance

6. A heterozygous condition would be characterized by the possession of alleles for
A. red hair.
B. red hair and red hair.
C. brown hair.
D. brown hair and red hair.

Blooms Level: 2. Understand
Enger - Chapter 10 #6
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Topic: Inheritance

7. A homozygous recessive condition is
A. aa.
B. Aa.
C. AA.
D. AaBb.

Blooms Level: 1. Remember
Enger - Chapter 10 #7
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Topic: Inheritance

8. The expression of a gene is called
A. probability.
B. phenotype.
C. genotype.
D. pleiotropy.

Blooms Level: 1. Remember
Enger - Chapter 10 #8
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Topic: Inheritance

9. A homozygous condition would be the possession of alleles for
A. red hair and blonde hair.
B. red hair and red hair.
C. brown hair and black hair.
D. brown hair and red hair.

Blooms Level: 1. Remember
Enger - Chapter 10 #9
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Topic: Inheritance

10. If I^A and I^B dominate *i*, which phenotype indicates the genotype when the alleles I^A and *i* are present?

A. type A blood
B. type B blood
C. type AB blood
D. All of these answers are correct.

Blooms Level: 2. Understand
Enger - Chapter 10 #10
Learning Outcome: Explain how a person can have the allele for a particular gene but not show it.
Section: 10.06
Topic: Inheritance

11. A male has a genotype RrTt. What is the probability of his producing Rt sperm cells?
A. 0%
B. 25%
C. 50%
D. 100%

Blooms Level: 4. Analyze
Enger - Chapter 10 #11
Learning Outcome: Explain the likelihood that a particular trait will be passed on to the next generation.
Section: 10.01
Topic: Inheritance

12. When two dice are thrown, both dice will show the number three

A. one in two times.
B. one in six times.
C. one in thirty-six times.
D. one in four times.

Blooms Level: 4. Analyze
Enger - Chapter 10 #12
Learning Outcome: Determine the chances that children will carry two particular genes.
Section: 10.03
Topic: Inheritance

13. The chances of guessing the right answer to this question are

A. 1/1.
B. 1/2.
C. 1/3.
D. 1/4.

Blooms Level: 4. Analyze
Enger - Chapter 10 #13
Learning Outcome: Determine the chances that children will carry two particular genes.
Section: 10.03
Topic: Inheritance

14. In a fifty-two card deck, the chances of drawing the only ace of spades are

A. 1/4.
B. 1/52.
C. 1/13.
D. 1/26.

Blooms Level: 4. Analyze
Enger - Chapter 10 #14
Learning Outcome: Determine the chances that children will carry two particular genes.
Section: 10.03
Topic: Inheritance

15. In pea plants, smooth seeds (S) are dominant over wrinkled seeds (S). A cross is made between a wrinkled-seed variety and a heterozygous smooth-seed variety. The chance of getting offspring homozygous for smooth seeds is

A. 0/4.
B. 1/4.
C. 1/2.
D. 1/1.

Blooms Level: 4. Analyze
Enger - Chapter 10 #15
Learning Outcome: Determine if the children of a father and mother with a certain gene combination will automatically show that trait.
Section: 10.02
Section: 10.05
Topic: Inheritance

16. In fruit flies normal wings are dominant over vestigial wings. If a homozygous normal-winged fly and vestigial-winged fly were crossed, what would the phenotype of the fly offspring be?

A. all vestigial-winged
B. all normal-winged
C. three normal: one vestigial-winged
D. one normal-winged: two half-winged: one vestigial-winged

Blooms Level: 4. Analyze
Enger - Chapter 10 #16
Learning Outcome: Determine if the children of a father and mother with a certain gene combination will automatically show that trait.
Section: 10.02
Section: 10.05
Topic: Inheritance

17. In humans, normal vision dominates color-deficiency, and both are X-linked. (The genes are located on the X chromosome.) A color-deficient male marries a woman who is heterozygous for normal vision. If they have a boy, the chance that he will be color-deficient is

A. 100%.
B. 0%.
C. 75%.
D. 50%.

Blooms Level: 4. Analyze
Enger - Chapter 10 #17
Learning Outcome: Understand how a persons sex can influence the expression of his or her genes.
Learning Outcome: Understand how codominant alleles and X-linkage explain inheritance patterns.
Section: 10.07
Topic: Inheritance

18. In humans, the genes for blood type A and B show lack of dominance to one another and both dominate O. Two type O people would be able to have

A. 1 O: 1 A: 1 B: 1 AB type children.
B. only O type children.
C. 1 O: 1 A type children.
D. only AB type children.

Blooms Level: 2. Understand
Enger - Chapter 10 #18
Learning Outcome: Understand how codominant alleles and X-linkage explain inheritance patterns.
Section: 10.07
Topic: Inheritance

19. In humans, normal skin dominates albino skin; a cross between two albino people results in

A. two normal and two albino.
B. all normal.
C. all albino.
D. three albino and one normal.

Blooms Level: 4. Analyze
Enger - Chapter 10 #19
Learning Outcome: Explain how people inherit varying degrees of traits such as skin color.
Section: 10.02
Topic: Inheritance

20. The probability of parents with the genotypes (Mm) × (Mm) having an offspring with the genotype (mm) is

A. 1/2.
B. 1/4.
C. 3/8.
D. 0.

Blooms Level: 4. Analyze
Enger - Chapter 10 #20
Learning Outcome: Explain the likelihood that a particular trait will be passed on to the next generation.
Section: 10.03
Topic: Inheritance

21. The probability of parents with the genotypes (Ll) (ll) having an offspring with the genotype (ll) is

A. 1/2.
B. 1/4.
C. 3/8.
D. 0.

Blooms Level: 4. Analyze
Enger - Chapter 10 #21
Learning Outcome: Determine the chances that children will carry two particular genes.
Section: 10.05
Topic: Inheritance

22. The sex of mammals is determined by
A. the autosomes they receive.
B. the type of sex chromosomes received.
C. the number of recessive chromosomes received.
D. None of these answers is or may be a factor.

Blooms Level: 1. Remember
Enger - Chapter 10 #22
Learning Outcome: Understand how a persons sex can influence the expression of his or her genes.
Section: 10.07
Topic: Inheritance

23. The typical human male has
A. 22 pairs of chromosomes.
B. 22 pairs of chromosomes and two Y chromosomes.
C. 22 pairs of chromosomes and one X and one Y chromosome.
D. 23 X or 23 Y chromosomes.

Blooms Level: 1. Remember
Enger - Chapter 10 #23
Learning Outcome: Understand how a persons sex can influence the expression of his or her genes.
Section: 10.07
Topic: Inheritance

24. Which of the following represents the sex chromosomes of a typical human female?
A. XY
B. XXX
C. XO
D. XX

Blooms Level: 1. Remember
Enger - Chapter 10 #24
Learning Outcome: Understand how a persons sex can influence the expression of his or her genes.
Section: 10.07
Topic: Inheritance

25. The Y chromosome is in the
A. egg.
B. egg or sperm.
C. polar body.
D. sperm.

Blooms Level: 1. Remember
Enger - Chapter 10 #25
Learning Outcome: Understand how a persons sex can influence the expression of his or her genes.
Section: 10.07
Topic: Inheritance

26. The sex chromosomes determine the sex of mammals and are
A. female, YX; male, XX.
B. female, Y; male, X.
C. female, X; male, XX.
D. female, XX; male, XY.

Blooms Level: 1. Remember
Enger - Chapter 10 #26
Learning Outcome: Understand how a persons sex can influence the expression of his or her genes.
Section: 10.07
Topic: Inheritance

27. If a sperm containing an X chromosome fertilizes an egg, the child will normally be
A. a girl.
B. a boy.
C. twins, a boy and a girl.
D. twin boys.

Blooms Level: 1. Remember
Enger - Chapter 10 #27
Learning Outcome: Understand how a persons sex can influence the expression of his or her genes.
Section: 10.07
Topic: Inheritance

28. When a gene has the ability to influence several different aspects of the phenotype of an organism, this is referred to as

A. polygenic inheritance.
B. pleiotropy.
C. multiple alleles.
D. lack of dominance.

Blooms Level: 1. Remember
Enger - Chapter 10 #28
Learning Outcome: Understand how both external and internal environmental factors can influence the expression of genes.
Section: 10.06
Topic: Inheritance

29. A gene found on the X chromosome is a(n)

A. female gene.
B. X-linked gene.
C. dominant gene.
D. locus.

Blooms Level: 1. Remember
Enger - Chapter 10 #29
Learning Outcome: Understand how a persons sex can influence the expression of his or her genes.
Section: 10.07
Topic: Inheritance

30. If one pair of genes could cause some flowers to have red petals or yellow petals and could also determine the strength of the stem, this would be an example of

A. polygenic inheritance.
B. pleiotropy.
C. recessiveness.
D. hybrid.

Blooms Level: 1. Remember
Enger - Chapter 10 #30
Learning Outcome: Understand how both external and internal environmental factors can influence the expression of genes.
Section: 10.06
Topic: Inheritance

31. A case of more than one gene influencing one phenotypic characteristic is called

A. pleiotropy.
B. polygenic inheritance.
C. X-linked.
D. monohybrid.

Blooms Level: 1. Remember
Enger - Chapter 10 #31
Learning Outcome: Understand how both external and internal environmental factors can influence the expression of genes.
Section: 10.06
Topic: Inheritance

32. In fruit flies, long wing (L) is dominant, vestigial wing (l) is recessive, gray body (G) is dominant, ebony body (g) is recessive. Two fruit flies were mated that were long-winged with gray bodies. The genotype of these two parental flies is LlGg × LlGg. What proportion of the offspring flies would have long wings and gray bodies?

A. All offspring would be long-winged with gray bodies.
B. Nine-sixteenths of the offspring would be long-winged with gray bodies.
C. Three-fourths of the offspring would be long-winged with gray bodies.
D. Seven-sixteenths of the offspring would be long-winged with gray bodies.

Blooms Level: 4. Analyze
Enger - Chapter 10 #32
Learning Outcome: Determine the chances that children will carry two particular genes.
Section: 10.02
Section: 10.03
Section: 10.05
Topic: Inheritance

33. Smooth fur dominates rough fur; black and white fur are incompletely dominant and result in gray. A rough gray crossed with a rough gray would produce

A. all rough gray.
B. 1/2 rough black, 1/2 rough white.
C. 1/2 rough black, 1/4 rough gray, 1/4 rough white.
D. 1/4 rough black, 1/2 rough gray, 1/4 rough white.

Blooms Level: 4. Analyze
Enger - Chapter 10 #33
Learning Outcome: Determine the chances that children will carry two particular genes.
Section: 10.02
Section: 10.03
Section: 10.05
Topic: Inheritance

34. Brown eyes (B) dominate blue eyes (b); black hair (H) dominates blond hair (h). In order to have an offspring ratio of 1/4 brown eyes, black hair, 1/4 brown eyes, blond hair, 1/4 blue eyes, black hair, and 1/4 blue eyes, blond hair, the genotype of the parents would have to be

A. bbHh × Bbhh.
B. bbhh × BbHh.
C. Bbhh × bbHh.
D. All of these answers are true.

Blooms Level: 4. Analyze
Enger - Chapter 10 #34
Learning Outcome: Determine the chances that children will carry two particular genes.
Section: 10.02
Section: 10.03
Section: 10.05
Topic: Inheritance

35. The trait for color dominates albino, and black fur dominates red fur. If an animal homozygous for color and heterozygous for black fur is crossed with an albino homozygous for red, the ratio of offspring would be

A. 1/2 red, 1/2 black.
B. all albino.
C. all red.
D. 1/2 albino, 1/4 black, 1/4 red.

Blooms Level: 4. Analyze
Enger - Chapter 10 #35
Learning Outcome: Determine the chances that children will carry two particular genes.
Section: 10.02
Section: 10.03
Section: 10.05
Topic: Inheritance

36. If the many offspring of a double-factor cross always have both recessive traits,

A. one parent was homozygous dominant for both traits.
B. both parents were homozygous dominant for both traits.
C. one parent was homozygous recessive for both traits.
D. both parents were homozygous recessive for both traits.

Blooms Level: 4. Analyze
Enger - Chapter 10 #36
Learning Outcome: Determine the chances that children will carry two particular genes.
Section: 10.05
Topic: Inheritance

37. In pea plants, a gene R produces red flowers and is dominant to a gene r, which produces white flowers. A gene T produces tall plants and is dominant to a gene t for short plants. If a plant that is homozygous for red flowers and heterozygous for tallness is crossed with a plant that is short and white, what will be the phenotypic ratio of the offspring?

A. one tall red:one short red
B. nine tall red:three short red:three tall white:one short white
C. three tall red:one short red:one tall white
D. one short white:two short red:one tall white

Blooms Level: 4. Analyze
Enger - Chapter 10 #37
Learning Outcome: Determine the chances that children will carry two particular genes.
Section: 10.02
Section: 10.03
Section: 10.05
Topic: Inheritance

38. The sex of the fruit fly *Drosophila melanogaster* is determined as follows: XX chromosomes give a female and XY give a male. The gene for bar eyes is recessive and located on the X chromosome. If two bar-eyed flies are mated, what percentage of the offspring will have bar eyes?

A. none
B. 25%
C. 50%
D. 100%

Blooms Level: 4. Analyze
Enger - Chapter 10 #38
Learning Outcome: Determine the chances that children will carry two particular genes.
Section: 10.02
Section: 10.03
Section: 10.05
Topic: Inheritance

39. The sex of the fruit fly *Drosophila melanogaster* is determined as follows: XX chromosomes give a female and XY give a male. The gene for bar eyes is recessive and located on the X chromosome. If a male with normal eyes is mated with a female who has normal eyes but is heterozygous,

A. all of the female offspring will have bar eyes.
B. 1/2 the offspring will have bar eyes.
C. 1/2 the males will have bar eyes.
D. none of the offspring will have bar eyes.

Blooms Level: 3. Apply
Enger - Chapter 10 #39
Learning Outcome: Determine the chances that children will carry two particular genes.
Section: 10.02
Topic: Inheritance

40. The sex of the fruit fly *Drosophila melangaster* is determined as follows: XX chromosomes give a female and XY give a male. The gene for bar eyes is recessive and located on the X chromosome. If you had a normal-eyed female and did not know whether she was homozygous or heterozygous, you could determine her genotype by mating her with

A. any kind of male.
B. normal-eyed males only.
C. bar-eyed males only.
D. homozygous, bar-eyed males only.

Blooms Level: 4. Analyze
Enger - Chapter 10 #40
Learning Outcome: Determine the chances that children will carry two particular genes.
Section: 10.02
Section: 10.03
Section: 10.05
Topic: Inheritance

41. Human skin color is thought to be determined by at least three pairs of alleles. If dark skin (D) is dominant to light skin (d), the genotypes that will produce the darkest skin are

A. D^1d^1 D^2d^2 D^3d^3.
B. D^1D^1 D^2d^2 d^3d^3.
C. d^1d^1 D^2D^2 D^3d^3.
D. D^1d^1 D^2d^2 D^3D^3.

Blooms Level: 4. Analyze
Enger - Chapter 10 #41
Learning Outcome: Explain how people inherit varying degrees of traits such as skin color.
Section: 10.06
Topic: Inheritance

42. The information within the central squares of a Punnett square represents

A. parental genotypes.
B. parental gametes.
C. offspring genotypes.
D. gamete phenotypes.

Blooms Level: 1. Remember
Enger - Chapter 10 #42
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Learning Outcome: Explain how a person can have the allele for a particular gene but not show it.
Section: 10.03
Topic: Inheritance

43. In the cross AaBb × AaBb, _____ of the offspring will express ____.

A. 1/16; both dominant traits
B. 3/16; one dominant and one recessive trait
C. 6/16; one dominant and one recessive trait
D. 3/16; both recessive traits

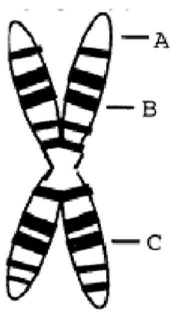
Blooms Level: 5. Evaluate
Enger - Chapter 10 #43
Learning Outcome: Determine the chances that children will carry two particular genes.
Section: 10.02
Section: 10.03
Section: 10.05
Topic: Inheritance

44. Two genes located on the **same** chromosome are

A. homologous.
B. homozygous.
C. linked.
D. autosomes.

Blooms Level: 2. Understand
Enger - Chapter 10 #44
Section: 10.02
Topic: Inheritance

45. According to the diagram, genes _______ are most likely to be inherited together and genes _______ are



least likely to be inherited together.

A. A and B; A and C
B. A and B; B and C
C. B and C; A and C
D. A and C; A and B

Blooms Level: 2. Understand
Enger - Chapter 10 #45
Learning Outcome: Determine the chances that children will carry two particular genes.
Section: 10.07
Topic: Inheritance

46. Which of the following does NOT express one of Mendel's laws?

A. When two different alleles are present for a given trait, the expression of one will mask the expression of the other.

B. Alleles separate during the formation of sex cells.

C. During the formation of sex cells, members of one gene pair separate from one another independently of members of other gene pairs.

D. Genes located on the same chromosome have a greater tendency of being inherited together than do genes located on different chromosomes.

Blooms Level: 2. Understand
Enger - Chapter 10 #46
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Learning Outcome: Explain how a person can have the allele for a particular gene but not show it.
Section: 10.02
Topic: Inheritance

47. Offspring with four phenotypes in a 1:1:1:1 ratio can be produced by

A. AaBb × AaBb.

B. AABB × AaBb.

C. AaBa × AABb.

D. AaBb × aabb.

Blooms Level: 4. Analyze
Enger - Chapter 10 #47
Learning Outcome: Determine if the children of a father and mother with a certain gene combination will automatically show that trait.
Learning Outcome: Explain how a person can have the allele for a particular gene but not show it.
Section: 10.02
Section: 10.03
Section: 10.05
Topic: Inheritance

48. A single dominant gene that produces abnormal connective tissue causes Marfan syndrome. Individuals with the condition exhibit symptoms such as nearsightedness, long thin appendages, and a weak aorta. Marfan syndrome is an example of

A. polygenic inheritance.

B. pleiotropy.

C. multiple alleles.

D. lack of dominance.

Blooms Level: 2. Understand
Enger - Chapter 10 #48
Learning Outcome: Understand how both external and internal environmental factors can influence the expression of genes.
Section: 10.06
Topic: Inheritance

49. The allele that causes Huntington's disease is expressed earlier in life when it is inherited from the father than when it is inherited from the mother. Huntington's disease is an example of

A. an X-linked trait.

B. pleiotropy.

C. gene imprinting.

D. linkage.

Blooms Level: 2. Understand
Enger - Chapter 10 #49
Learning Outcome: Understand how both external and internal environmental factors can influence the expression of genes.
Section: 10.06
Topic: Inheritance

50. In humans, eye color is determined by the amount of melanin in the iris of the eye and is probably controlled by several genes. The inheritance of eye color is an example of

A. multiple alleles.

B. pleiotropy.

C. polygenic inheritance.

D. gene imprinting.

Blooms Level: 1. Remember
Enger - Chapter 10 #50
Learning Outcome: Explain how people inherit varying degrees of traits such as skin color.
Section: 10.06
Topic: Inheritance

51. In fruit flies the gene for vestigial wings will produce tiny underdeveloped wings at room temperature but will produce normal wings at higher temperatures. The vestigial condition in fruit flies is determined by

A. heredity and environment.
B. pleiotropy.
C. linkage.
D. gene imprinting.

Blooms Level: 2. Understand
Enger - Chapter 10 #51
Learning Outcome: Understand how both external and internal environmental factors can influence the expression of genes.
Section: 10.08
Topic: Inheritance

52. A red-eyed female fruit fly is crossed with a red-eyed male fruit fly. All of the female offspring have red eyes but only one-half of the male offspring are red-eyed. The other half of the male offspring have white eyes. In this example, eye color in fruit flies

A. is influenced by the environment.
B. is an X-linked trait.
C. is controlled by several genes.
D. exhibits lack of dominance.

Blooms Level: 2. Understand
Enger - Chapter 10 #52
Learning Outcome: Understand how a persons sex can influence the expression of his or her genes.
Section: 10.07
Topic: Inheritance

53. Nearly two dozen different alleles for the same gene can determine eye color in fruit flies. This is an example of

A. multiple alleles.
B. polygenic inheritance.
C. pleiotropy.
D. incomplete dominance.

Blooms Level: 1. Remember
Enger - Chapter 10 #53
Learning Outcome: Explain how people inherit varying degrees of traits such as skin color.
Section: 10.06
Topic: Inheritance

54. In a cross between two blue Andalusian chickens, 25% of the offspring produced were white, 25% where black, and 50% were blue Andalusian like the parents. Color in these chickens is most likely inherited by

A. multiple alleles.
B. polygenic.
C. pleiotropy.
D. incomplete dominance.

Blooms Level: 4. Analyze
Enger - Chapter 10 #54
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Section: 10.03
Section: 10.05
Section: 10.06
Topic: Inheritance

55. In humans, a gene for free earlobes dominates a gene for attached earlobes. These alternative forms of a gene for earlobe shape are examples of

A. loci.
B. genomes.
C. alleles.
D. pleiotropy.

Blooms Level: 2. Understand
Enger - Chapter 10 #55
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.01
Section: 10.02
Topic: Inheritance

56. In pea plants, green pod color dominates yellow pod color. If a pea plant with yellow pods is crossed with a pea plant heterozygous for pod color, ____ of the offspring will have yellow pods.

A. 25%
B. 50%
C. 75%
D. 100%

Blooms Level: 4. Analyze
Enger - Chapter 10 #56
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Section: 10.03
Section: 10.05
Section: 10.06
Topic: Inheritance

57. The possible combinations of alleles in the gametes of an individual with the genotype aaBb are

A. AB, Ab, aB, ab.
B. aa, Bb.
C. aB, ab.
D. aa, ab, aB.

Blooms Level: 2. Understand
Enger - Chapter 10 #57
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Topic: Inheritance

58. Skin color and height are inherited by

A. polygenic inheritance.
B. lack of dominance.
C. multiple alleles.
D. pleiotropy.

Blooms Level: 1. Remember
Enger - Chapter 10 #58
Learning Outcome: Explain how people inherit varying degrees of traits such as skin color.
Section: 10.06
Topic: Inheritance

59. A woman heterozygous for blood type A and a man with blood type AB are expecting a child. The probability of the child having type B blood is

A. 0.
B. 1/4.
C. 1/2.
D. 3/4.

Blooms Level: 4. Analyze
Enger - Chapter 10 #59
Learning Outcome: Determine if the children of a father and mother with a certain gene combination will automatically show that trait.
Learning Outcome: Understand how codominant alleles and X-linkage explain inheritance patterns.
Section: 10.02
Section: 10.03
Section: 10.05
Topic: Inheritance

60. In snapdragons, FR = red flowers and FW = white flowers. Plants heterozygous for flower color have pink flowers. A cross between two pink-flowered plants will produce ____ red-flowered plants.

A. 100%
B. 75%
C. 50%
D. 25%

Blooms Level: 4. Analyze
Enger - Chapter 10 #60
Learning Outcome: Determine if the children of a father and mother with a certain gene combination will automatically show that trait.
Section: 10.03
Section: 10.05
Section: 10.06
Topic: Inheritance

61. Color blindness is a recessive sex-linked trait. If a man with normal color vision and a woman who is a carrier for the color blindness trait have a son, what is the probability that he will be color-blind?

A. 0%
B. 25%
C. 50%
D. 100%

Blooms Level: 4. Analyze
Enger - Chapter 10 #61
Learning Outcome: Understand how a persons sex can influence the expression of his or her genes.
Learning Outcome: Understand how codominant alleles and X-linkage explain inheritance patterns.
Section: 10.03
Section: 10.05
Section: 10.07
Topic: Inheritance

62. A man who does not suffer from sickle-cell anemia but is a carrier of the sickle-cell trait is married to a woman who is also a carrier for the sickle-cell trait. If they have a child, there is a ____ probability of that child suffering from sickle-cell anemia.

A. 0%
B. 25%
C. 50%
D. 100%

Blooms Level: 4. Analyze
Enger - Chapter 10 #62
Learning Outcome: Explain how a person can have the allele for a particular gene but not show it.
Section: 10.02
Section: 10.03
Section: 10.05
Section: 10.07
Topic: Inheritance

63. If the parents of a child have the following genotypes [Bb × Bb], what is the probability that they will have a child with the genotype [Bb]?

A. 100%
B. 50%
C. 25%
D. 0%

Blooms Level: 4. Analyze
Enger - Chapter 10 #63
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Section: 10.03
Section: 10.05
Topic: Inheritance

64. If an individual has the genotype BbCc, how many different kinds of gametes can that individual produce?

A. one
B. two
C. three
D. four

Blooms Level: 2. Understand
Enger - Chapter 10 #64
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Topic: Inheritance

65. There are three alleles for blood type, IA and IB are both dominant to iO but IA is not dominant to IB. A man has type O blood. A woman has type A blood but her father had type B blood. If this man and this woman have children what are the possible genotypes of the offspring?

A. iOiO and IAiO
B. iOiO and IBiO
C. iOiO only
D. IAIB and IBiO

Blooms Level: 4. Analyze
Enger - Chapter 10 #65
Learning Outcome: Explain how a person can have the allele for a particular gene but not show it.
Section: 10.02
Section: 10.03
Section: 10.05
Section: 10.06
Topic: Inheritance

66. If the parents of a child have the following genotypes [Bb × Bb], what is the probability that they will have a child with the genotype [BB]?

A. 100%
B. 50%
C. 25%
D. 0%

Blooms Level: 4. Analyze
Enger - Chapter 10 #66
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Section: 10.03
Section: 10.05
Topic: Inheritance

67. If an individual has the genotype BbCC, how many different kinds of gametes can that individual produce?

A. one
B. two
C. three
D. four

Blooms Level: 2. Understand
Enger - Chapter 10 #67
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Topic: Inheritance

68. The gene for color blindness is a recessive allele located on the X chromosome. If a color-blind man and a color-blind woman have one son and three daughters, how many will be color-blind?

A. all children will be color-blind
B. only the one son will be color-blind
C. only the three daughters will be color-blind
D. none of the children will be color-blind

Blooms Level: 4. Analyze
Enger - Chapter 10 #68
Learning Outcome: Explain how a person can have the allele for a particular gene but not show it.
Section: 10.02
Section: 10.03
Section: 10.05
Section: 10.06
Topic: Inheritance

69. If in houseflies the allele for green eyes is dominant over the allele for white eyes, and a heterozygous green-eyed male is mated with a white-eyed female, what is the probability that they will have green-eyed offspring?

A. 1/4
B. 1/2
C. 3/4
D. 4/4

Blooms Level: 4. Analyze
Enger - Chapter 10 #69
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Section: 10.03
Section: 10.05
Section: 10.06
Topic: Inheritance

70. If parents with the following genotypes (AABb × aaBb) have offspring, what is the probability that they will have an offspring with the genotype (AaBB)?

A. 1/4
B. 1/2
C. 3/4
D. 4/4

Blooms Level: 4. Analyze
Enger - Chapter 10 #70
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Section: 10.03
Section: 10.05
Section: 10.06
Topic: Inheritance

71. In fruit flies, males are determined by the presence of an X and Y chromosome; females are determined by two X chromosomes. The gene for eye color is located on the X chromosome and is absent from the Y chromosome. The allele for white eyes is recessive and the allele for red eyes is dominant. If a red-eyed male is mated with a white-eyed female, what is the probability that their male offspring will be white-eyed?

A. 100%
B. 50%
C. 25%
D. 0%

Blooms Level: 4. Analyze
Enger - Chapter 10 #71
Learning Outcome: Understand how a persons sex can influence the expression of his or her genes.
Learning Outcome: Understand how codominant alleles and X-linkage explain inheritance patterns.
Section: 10.02
Section: 10.03
Section: 10.05
Section: 10.06
Section: 10.07
Topic: Inheritance

72. A research geneticist discovered that a particular trait is controlled by ______ she identified as B, b_1, b_2, b_3, b_4, b_5.

A. genes
B. alleles
C. phenotypes
D. genotypes

Blooms Level: 1. Remember
Enger - Chapter 10 #72
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.01
Section: 10.02
Topic: Inheritance

73. Humans have the diploid number of chromosomes, 2n = 46. This also indicates humans

A. have two genomes.
B. are more intelligent than worms.
C. have at least two genotypes that can result from fertilization.
D. have 23 chromosomes that are necessary for life.

Blooms Level: 2. Understand
Enger - Chapter 10 #73
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.01
Section: 10.02
Topic: Inheritance

74. "This patient with Marfan syndrome has really long fingers and toes, and is exceptionally tall." This is a statement describing

A. genotype.
B. phenotype.
C. monohybridization.
D. locus placement.

Blooms Level: 2. Understand
Enger - Chapter 10 #74
Learning Outcome: Understand the concepts of genotype and phenotype.
Section: 10.02
Topic: Inheritance

75. "She is a carrier of the cystic fibrosis trait." This statement acknowledges that this person is

A. homozygous for the trait.
B. heterozygous for the trait.
C. trisomic.
D. carrying two recessive alleles.

Blooms Level: 2. Understand
Enger - Chapter 10 #75
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Topic: Inheritance

76. When an organism has two different alleles for a given trait, the allele that is expressed, overshadowing the expression of the other allele, is said to be

A. dominant.
B. recessive.
C. homozygous.
D. rare.

Blooms Level: 1. Remember
Enger - Chapter 10 #76
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.02
Topic: Inheritance

77. "Two out of three times, they will pass on the trait." This is a statement of

A. probability.
B. possibility.
C. certainty.
D. confusion.

Blooms Level: 2. Understand
Enger - Chapter 10 #77
Learning Outcome: Determine the chances that children will carry two particular genes.
Section: 10.03
Topic: Inheritance

78. "We are only going to trace this one trait from one generation to another." This statement would indicate that

A. the researcher is not sure of how this trait is inherited.
B. they will be developing a monohybrid (single factor) line.
C. multiple alleles are involved here.
D. a double-factor cross has been made.

Blooms Level: 2. Understand
Enger - Chapter 10 #78
Learning Outcome: Explain how a person can have the allele for a particular gene but not show it.
Section: 10.02
Section: 10.05
Topic: Inheritance

79. When the two alleles C^R C^W are the genotype of an individual, that person displays features of both alleles. This is known as

A. polygenic inheritance.
B. multiple alleles.
C. complete recessiveness.
D. codominance.

Blooms Level: 2. Understand
Enger - Chapter 10 #79
Learning Outcome: Understand how codominant alleles and X-linkage explain inheritance patterns.
Section: 10.06
Topic: Inheritance

80. Geneticists use this term when explaining how genetic information is converted into physical features of a cell or organism.

A. gene expression
B. gene replication
C. genetic mutation
D. genetic transcription

Blooms Level: 1. Remember
Enger - Chapter 10 #80
Learning Outcome: Define the concepts of dominant alleles and recessive alleles.
Section: 10.01
Section: 10.02
Section: 10.08
Topic: Inheritance

81. "She is a carrier of the cystic fibrosis trait." This statement acknowledges that this person

A. is homozygous for the trait.
B. is heterozygous for the trait.
C. may be trisomic.
D. has two recessive alleles.

Blooms Level: 2. Understand
Enger - Chapter 10 #81
Learning Outcome: Explain how a person can have the allele for a particular gene but not show it.
Section: 10.02
Section: 10.05
Topic: Inheritance

82. Whether a honeybee larva will become a worker or a queen is largely determined by its diet. This is an example of

A. environmental influences on gene.
B. an epigenetic effect.
C. change in genetic expression.
D. all of the above are correct.

Blooms Level: 2. Understand
Enger - Chapter 10 #82
Learning Outcome: Understand how both external and internal environmental factors can influence the expression of genes.
Section: 10.08
Topic: Inheritance

10 Summary

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Learning Outcome: Determine if the children of a father and mother with a certain gene combination will automatically show that t rait.	5
Learning Outcome: Determine the chances that children will carry two particular genes.	16
Learning Outcome: Explain how a person can have the allele for a particular gene but not show it.	9
Learning Outcome: Explain how people inherit varying degrees of traits such as skin color.	5
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