

Chapter 2 Genetics and Prenatal Development

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TOTAL ASSESSMENT GUIDE

Chapter 2-Section 1

~~Genetic Influences on Development~~

Learning Objective		Remember	Understand	Apply
Learning Objective 2.1	Multiple Choice	1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 22, 23, 30	5, 7, 24, 28, 29	18, 19, 20, 21, 25, 26, 27
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	Short Answer			
	Essay			

Section 1 Genetic Influences on Development

Test Item File

Multiple Choice Questions

1. The human body contains how many chromosomes?
- a. 23
 - b. 46
 - c. 69
 - d. 92

Answer: B

Difficulty: 1

Page: 50

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

2. The average human cell has _____ chromosomes.
- a. 42
 - b. 46
 - c. 23
 - d. 26

Answer: B

Difficulty: 1

Page: 50

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

% correct 84 a = 1 b = 84 c = 14 d = 1 r = .19

3. How many pairs of chromosomes do humans have?
- a. 23
 - b. 46
 - c. 69
 - d. 92

Answer: A

Difficulty: 1

Page: 50

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

% correct 76 a = 76 b = 24 c = 0 d = 0 r = .33

4. How many chromosomes from each pair of chromosomes are generally inherited from the father?
- a. 1
 - b. 2
 - c. 3

d. 4

Answer: A

Difficulty: 1

Page: 50

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

5. According to the text, chromosomes are composed of complex molecules known as ____.

a. nucleotides

Incorrect. The complex molecules are known as DNA.

b. genes

c. DNA

Correct. DNA is a long strand of cell material that stores and transfers genetic information.

d. RNA

Answer: C

Difficulty: 2

Page: 50

Skill: C

Learning Objective: 2.1

Bloom's Taxonomy Level: Understand

6. Chromosomes are composed of complex molecules known as ____.

a. DNA

b. nucleotide pairs

c. genetic

d. dominant recessives

Answer: A

Difficulty: 1

Page: 50

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

7. Chromosomes are organized into segments called ____.

a. DNA

Incorrect. The segments are called genes.

b. RNA

c. genes

Correct. Genes are segments of DNA that contain coded instructions for the growth and function of an organism.

d. nucleotides

Answer: C

Difficulty: 1

Page: 50

Skill: C

Learning Objective: 2.1

Bloom's Taxonomy Level: Understand

8. Genes contain paired sequences of chemicals called ____.
- a. genes
 - b. RNA
 - c. DNA
 - d. nucleotides

Answer: D

Difficulty: 2

Page: 50

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

9. Genes contain ____.
- a. protein segments
 - b. nucleotides
 - c. fatty cells
 - d. chromosomes

Answer: B

Difficulty: 2

Page: 50

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

10. Approximately how many genes comprise the human genome?
- a. 10,000
 - b. 23,000
 - c. 50,000
 - d. 100,000

Answer: B

Difficulty: 2

Page: 50

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

11. How many nucleotide pairs comprise the human genome?
- a. 100,000
 - b. 150 million
 - c. 3 billion
 - d. 5 trillion

Answer: C

Difficulty: 1

Page: 50

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

12. The totality of an individual's genes is referred to as his or her ____.
- a. phenotype
 - b. genotype

- c. inheritance
- d. environment

Answer: B

Difficulty: 1

Page: 50

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

13. An individual's complete genetic makeup is his or her ____.
- a. genotype
 - b. phenotype
 - c. allele
 - d. reaction range

Answer: A

Difficulty: 1

Page: 50

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

14. A person's ____ is/are their genetic makeup, whereas a person's ____ is/are their characteristics.
- a. phenotype; genotype
 - b. genotype; phenotype
 - c. nucleotides; DNA
 - d. DNA; nucleotides

Answer: B

Difficulty: 3

Page: 50

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

% correct 88 a = 12 b = 88 c = 0 d = 0 r = .43

15. The characteristics of an individual's genetic material are referred to as his or her ____.
- a. phenotype
 - b. genotype
 - c. inheritance
 - d. environment

Answer: A

Difficulty: 2

Page: 50

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

16. A person's characteristics are known as his or her ____.
- a. phenotype
 - b. genotype
 - c. chromosomes

- d. DNA

Answer: A

Difficulty: 1

Page: 50

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

17. The difference between an individual's genotype and its expression in his or her phenotype is a consequence of the person's ____.
- a. genes
 - b. DNA
 - c. environment
 - d. parents

Answer: C

Difficulty: 2

Page: 50

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

18. Fred was born into a family with high musical talent. Both of his parents were professional musicians who encouraged and fostered his musical development. Throughout childhood, he practiced the guitar whenever he could and eventually became a professional musician himself. Which of the following best describes Fred's genotype?
- a. Fred's musical genes
Correct. One's genotype is his or her complete genetic makeup.
 - b. Fred's musical talent
Incorrect. Musical talent is the characteristic, or the phenotype.
 - c. Fred's nurturing parents
 - d. Fred's musical genes and musical talent

Answer: A

Difficulty: 2

Page: 50

Skill: A

Learning Objective: 2.1

Bloom's Taxonomy Level: Apply

19. Jill's mother was an All-American in the 1500 m and qualified for the Olympic team in the marathon. Jill is a freshman in high school and does not think that she will need to train to become a member of the school's cross country team. Jill keeps telling you that her mother was a great runner, so she will also be a great runner. What do you think?
- a. She is correct; she will be a great runner no matter what she does.
Incorrect. Jill will need to train to become a great runner; that is, she will need to interact with the environment to express those genes.
 - b. It is unlikely that Jill even has the genotype for running.
 - c. Jill might have the genotype for running ability, but she will need to train become a great runner.
Correct. The athletic ability that may be present in Jill's genotype will not express itself if she does nothing to encourage it, such as training.
 - d. Jill has also inherited the genes for superior intelligence.

Answer: C

Difficulty: 2

Page: 50

Skill: A

Learning Objective: 2.1

Bloom's Taxonomy Level: Apply

20. Alejandro was born into a family with high musical talent. Both of his parents were professional musicians who encouraged and fostered his musical development. Throughout childhood, he practiced the guitar whenever he could and eventually became a professional musician himself. Which of the following best describes Alejandro's phenotype?
- a. Alejandro's musical genes
Incorrect. Alejandro's musical genes are his genotype.
 - b. Alejandro's musical talent
 - c. Alejandro's nurturing parents
Correct. Alejandro's genotype includes exceptional musical ability, but it's his parents' support of this ability that encouraged those genes to be expressed.
 - d. Alejandro's practice of the guitar

Answer: C

Difficulty: 2

Page: 50

Skill: A

Learning Objective: 2.1

Bloom's Taxonomy Level: Apply

21. Thomas's biological mother and father are both gifted athletes. He was adopted by a couple who had no interest in him being involved in sports. Although Thomas likely inherited athletic ability, it was never expressed in his ____.
- a. genotype
 - b. phenotype
Correct. Thomas likely inherited his biological parents' genotype, but his adoptive parents' disinterest in sports likely inhibited the development of athletic ability in Thomas's phenotype.
 - c. genes
Incorrect. His genetic potential was not expressed in his phenotype.
 - d. alleles

Answer: B

Difficulty: 2

Page: 50

Skill: A

Learning Objective: 2.1

Bloom's Taxonomy Level: Apply

% correct 89 a = 7 b = 89 c = 3 d = 2 r = .18

22. On every pair of chromosomes there are how many forms of each gene?
- a. 1
 - b. 2
 - c. 3
 - d. 4

Answer: B

Difficulty: 1

Page: 51

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

23. Each form of a gene that is contained within a chromosome is referred to as a ____.
- a. dominant gene
 - b. recessive gene
 - c. allele
 - d. single gene

Answer: C

Difficulty: 1

Page: 51

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

24. What type of gene, if it is present, will be expressed in the phenotype?
- a. recessive gene
 - b. dominant gene
- Correct. Recessive genes will only be expressed when there is no dominant gene present.*
- c. expressed gene
 - d. controller gene
- Incorrect. If a dominant gene is present, it will be expressed in the phenotype.*

Answer: B

Difficulty: 1

Page: 51

Skill: C

Learning Objective: 2.1

Bloom's Taxonomy Level: Understand

25. If having more than five fingers occurs because of a dominant gene, what needs to happen for a person to have more than five fingers?
- a. A person must have that dominant gene.
- Correct. If a dominant gene is present, it will be expressed in the phenotype.*
- b. A person must have two recessive genes.
 - c. The gene must mutate.
 - d. Both dominant genes must be present.
- Incorrect. For a dominant cell trait to be expressed, all that is needed is the presence of the dominant cell.*

Answer: A

Difficulty: 2

Page: 51

Skill: A

Learning Objective: 2.1

Bloom's Taxonomy Level: Apply

26. If the gene for curly hair is dominant and the gene for straight hair is recessive, from a dominant-recessive pairing, which of the following would be an individual's phenotype?
- a. straight hair

Incorrect. Straight hair is recessive.

- b. curly hair

Correct. Since curly hair is a dominant trait and a heterozygotic pairing is present, the individual's phenotype would be the curly hair, because curly hair is dominant and straight hair is recessive.

- c. dominant-recessive
- d. their complete genetic makeup

Answer: B

Difficulty: 2

Page: 51

Skill: A

Learning Objective: 2.1

Bloom's Taxonomy Level: Apply

27. Jill's mother and father both have brown eyes, yet she has blue eyes. She has come to believe that she is not her parents' actual biological daughter. What would you tell her?

- a. Her mother and father probably carry the recessive trait for blue eyes.

Correct. The blue-eyed child of two brown-eyed parents probably inherited a recessive blue-eyed gene from each parent.

- b. She is correct; there is no way that she would have blue eyes if she were really her parents' biological daughter.

Incorrect. Her parents most likely carry the recessive trait from blue eyes.

- c. Blue eyes are dominant, so her parents should have blue eyes too.
- d. Only the environment determines eye color once the fetus has been born.

Answer: A

Difficulty: 2

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Skill: A

Learning Objective: 2.1

Bloom's Taxonomy Level: Apply

% correct 97 a = 97 b = 2 c = 1 d = 0 r = .20

28. For a recessive gene to be expressed in the phenotype, it must be paired with a ____.

- a. dominant gene
- b. recessive gene

Correct. Two recessive genes must be present for that trait to be expressed.

- c. expressed gene

Incorrect. It must be paired with another recessive gene to be expressed.

- d. controller gene

Answer: B

Difficulty: 1

Page: 51

Skill: C

Learning Objective: 2.1

Bloom's Taxonomy Level: Understand

29. Single gene pairs play a crucial role in development. However, it is more common that developmental outcomes occur because of the interaction of multiple genes. This is known as ____.

- a. inheritability
- b. polygenic inheritance

Correct. Polygenic inheritance accounts for characteristics such as height and weight as well as intelligence and personality.

c. bimodal inheritance

Incorrect. This type of inheritance is referred to as polygenic inheritance.

d. single dominance

Answer: B

Difficulty: 2

Page: 52

Skill: C

Learning Objective: 2.1

Bloom's Taxonomy Level: Understand

30. Characteristics such as height, weight, and skin color are made up of a ____.
- a. homogenetic inheritance
 - b. heterogenetic inheritance
 - c. dominant-recessive inheritance
 - d. polygenic inheritance

Answer: D

Difficulty: 1

Page: 52

Skill: F

Learning Objective: 2.1

Bloom's Taxonomy Level: Remember

% correct 47 a = 6 b = 18 c = 29 d = 47 r = .16

31. The chromosomes that determine if a fetus will be male or female are known as the ____.

a. sex chromosomes

Correct. These are called XX in females and XY in males.

b. gender chromosomes

Incorrect. The sex chromosomes determine the sex of the offspring.

c. male chromosomes

d. female chromosomes

Answer: A

Difficulty: 1

Page: 52

Skill: C

Learning Objective: 2.2

Bloom's Taxonomy Level: Understand

32. If a fetus has the sex chromosomes XX, its genotype is ____.

a. female

Correct. Males have XY sex chromosomes.

b. male

Incorrect. XX genotype for the sex chromosome would be female.

c. undetermined

d. dimorphic

Answer: A

Difficulty: 1

Page: 52

Skill: C

Learning Objective: 2.2

Bloom's Taxonomy Level: Understand

33. If the fetus has the sex chromosomes XY, its genotype is _____.
a. female
Incorrect. XY genotype for the sex chromosome would be male.
b. male
Correct. Females have XX sex chromosomes.
c. undetermined
d. dimorphic

Answer: B

Difficulty: 1

Page: 52

Skill: C

Learning Objective: 2.2

Bloom's Taxonomy Level: Understand

34. A person with an XY pairing of chromosomes is a ____, whereas a person with an XX pairing of chromosomes is a ____.
a. male; female
b. female; male
c. homogenetic inheritance; polygenetic inheritance
d. polygenetic inheritance; homogenetic inheritance

Answer: A

Difficulty: 2

Page: 52

Skill: F

Learning Objective: 2.2

Bloom's Taxonomy Level: Remember

35. Which of the two sex chromosomes is significantly smaller and contains approximately 30% less genetic material?
a. X
Incorrect. The Y chromosome is notably smaller and contains less genetic material.
b. Y
Correct. The Y chromosome is notably smaller and contains only 1/2 the genetic material.
c. O
d. They are both the same.

Answer: B

Difficulty: 1

Page: 52

Skill: C

Learning Objective: 2.2

Bloom's Taxonomy Level: Understand

36. Of the following, which best describes the Y chromosome?
a. The Y chromosome is bigger than the X chromosome.
b. The Y chromosome contains about 30% less genetic material than the X chromosome.
c. The Y chromosome is responsible for determining the sex of the child.
d. There are no differences between the Y chromosome and the X chromosome.

Answer: B

Difficulty: 2

Page: 52

Skill: F

Learning Objective: 2.2

Bloom's Taxonomy Level: Remember

37. All eggs contain which sex chromosome?
- a. X
Correct. Females carry no Y chromosomes.
 - b. Y
Incorrect. All ova contain only the X chromosome.
 - c. O
 - d. None

Answer: A

Difficulty: 1

Page: 52

Skill: C

Learning Objective: 2.2

Bloom's Taxonomy Level: Understand

38. All ova, a female reproductive egg, are ____.
- a. X chromosome
 - b. Y chromosome
 - c. XY chromosome
 - d. XX chromosome

Answer: A

Difficulty: 1

Page: 52

Skill: F

Learning Objective: 2.2

Bloom's Taxonomy Level: Remember

39. What happens that determines the sex of the offspring?
- a. The eggs or ovum contain the X chromosome and the sperm cells carry either the X or the Y. The sperm cell that is involved in fertilization determines the sex of the offspring.
Correct. The woman's ova are not responsible for determining a child's sex, as they carry only X chromosomes.
 - b. The sperm cells all carry the X chromosome. The ovum contains both the X and Y, so it is the ovum that determines the sex of the offspring.
Incorrect. The sperm cell determines the sex of the offspring because it either carries the Y or the X chromosome.
 - c. The ovum and sperm cells both carry X chromosomes. The placenta carries both the X and Y and it determines the sex of the offspring.
 - d. The ovum and the sperm cells both contain the X chromosome. During the course of fertilization either an X or a Y will be created, which determines the sex of the offspring.

Answer: A

Difficulty: 1

Page: 52

Skill: C

Learning Objective: 2.2

Bloom's Taxonomy Level: Understand

40. Your older brother has a friend who was angry with his wife because they have two sons and he wanted to have a daughter. He thought that she was responsible for having two boys rather than a boy and a girl. What would you tell your brother?
- a. His friend was correct, she was purposefully having sons instead of a daughter.
 - b. It was not anyone's "fault," but the sperm determined the sex of the offspring.
Correct. The sex of the offspring is determined by which chromosome is contributed by the sperm.
 - c. It was not anyone's "fault" even though her ova determined the sex of the offspring.
Incorrect. The sperm cell determines the sex of the offspring.
 - d. Sex of the offspring is determined by day of the week. They both should have known what day they were trying to conceive.

Answer: B

Difficulty: 1

Page: 52

Skill: A

Learning Objective: 2.2

Bloom's Taxonomy Level: Apply

% correct 76 a = 6 b = 76 c = 12 d = 6 r = .17

41. Who is more affected by X-linked inherited disorders?
- a. females
Incorrect. Males are more likely to be affected by X-linked inherited disorders.
 - b. males
Correct. Males are more affected because they do not have a second X chromosome that may be carrying a dominant gene to block the expression of an X-linked inherited disorder.
 - c. children under one year of age
 - d. adults with mutations

Answer: B

Difficulty: 1

Page: 52

Skill: C

Learning Objective: 2.2

Bloom's Taxonomy Level: Understand

42. Who are generally carriers of X-linked disorders?
- a. females
 - b. males
 - c. individuals who have been exposed to teratogens
 - d. individuals with a trisomy

Answer: A

Difficulty: 1

Page: 52–53

Skill: F

Learning Objective: 2.2

Bloom's Taxonomy Level: Remember

43. Why are males more likely to have X-linked inherited disorders?
- a. If the X chromosome contains the recessive gene for the disorder, their Y chromosome has no dominant gene to prevent it.
- Correct. Males also would not have a second X chromosome that may contain a dominant gene to block the X-linked inherited disorder.*
- b. They are generally more immature at birth.
 - c. Androgen is a hormone that causes disorders to occur.
 - d. If the Y chromosome does not develop properly, the genes on this chromosome cannot prevent the disorder from occurring.
- Incorrect. If the X chromosome contains the recessive gene for the disorder, the Y chromosome does not have the genes to counteract the gene on the X chromosome.*

Answer: A

Difficulty: 1

Page: 52–53

Skill: C

Learning Objective: 2.2

Bloom's Taxonomy Level: Understand

44. Why are males more susceptible to X linked disorders?
- a. Because males have an XX pairing of chromosomes; therefore, this increases their odds of a disorder.
 - b. Because males have an XY pairing of chromosomes and the Y chromosome is more likely to host a genetic disorder.
 - c. Because most genetic disorders are connected to the dominant gene and since men have an XY pairing a disorder is more likely to be expressed.
 - d. Because males have one X chromosome, and if a recessive gene for a disorder is present, he does not have another X chromosome that may contain a dominant gene to block its expression.

Answer: D

Difficulty: 3

Page: 52–53

Skill: F

Learning Objective: 2.2

Bloom's Taxonomy Level: Remember

45. Which of the following is an example of an X-linked disorder?
- a. schizophrenia
 - b. hemophilia
 - c. bipolar disease
 - d. enuresis

Answer: B

Difficulty: 1

Page: 52–53

Skill: F

Learning Objective: 2.2

Bloom's Taxonomy Level: Remember

46. Your friend has hemophilia and was worried that he could pass it to his offspring when he had children. What would you tell him?
- a. He is probably correct, he will pass hemophilia on.

- b. Hemophilia is an X-linked disorder and it would be impossible for him to pass it to any male offspring. It would be possible for his female offspring to be carriers, though.

Correct. Since his male offspring would inherit his Y chromosome, he cannot pass along an X-linked disorder to them.

- c. X-linked disorders are not inherited; he has no worries

Incorrect. X-linked disorders are inherited.

- d. Since he has hemophilia, he is probably sterile and unable to father children.

Answer: B

Difficulty: 1

Page: 52–53

Skill: A

Learning Objective: 2.2

Bloom's Taxonomy Level: Apply

47. Which of the following is an example of an X-linked inheritance disorder?

- a. autism
- b. Down syndrome
- c. hemophilia
- d. Turner's syndrome

Answer: C

Difficulty: 1

Page: 52–53

Skill: F

Learning Objective: 2.2

Bloom's Taxonomy Level: Remember

48. Nature is to ____ as nurture is to ____.

- a. conditioning; learning
- b. learning; conditioning
- c. environment; genetics
- d. genetics; environment

Answer: D

Difficulty: 1

Page: 53–54

Skill: F

Learning Objective: 2.3

Bloom's Taxonomy Level: Remember

% correct 82 a = 0 b = 6 c = 12 d = 82 r = .32

49. According to your text, what have researchers concluded about the nature–nurture debate in terms of development?

- a. Genetics is more important.
- b. Environment is more important.
- c. Both are important.
- d. Genetics is more important in infancy and environment in childhood.

Answer: C

Difficulty: 1

Page: 54

Skill: F

Learning Objective: 2.3

Bloom's Taxonomy Level: Remember

50. Which the following statements best describes the nature–nurture debate?
- Most characteristics develop solely from nature or nurture, but not both.
 - Most characteristics develop from a combination of nature and nurture.
 - Most characteristics develop from only nature.
 - Most characteristics develop from only nurture.

Answer: B

Difficulty: 1

Page: 54

Skill: F

Learning Objective: 2.3

Bloom's Taxonomy Level: Remember

51. What field is concerned with the question of how much genes influence development?
- embryology
 - behavior genetics
 - developmental psychology
 - genetics

Answer: B

Difficulty: 1

Page: 54

Skill: F

Learning Objective: 2.3

Bloom's Taxonomy Level: Remember

52. Which question best captures the spirit of most individuals who study human development with regard to the nurture/nature question?
- How do genes and environmental factors interact in the development of memory processes?
Correct. Human development is influenced by both genes and environment.
 - Which human behaviors are determined genetically, and which are determined by environmental factors?
Incorrect. Behavior is a collective contribution of both nature and nurture.
 - At what age do environmental factors surpass genetic factors as most important in human development?
 - Which genes are responsible for childhood behavior, and which genes are responsible for adult behavior?

Answer: A

Difficulty: 3

Page: 54

Skill: A

Learning Objective: 2.3

Bloom's Taxonomy Level: Apply

53. A behavioral geneticist would use which of the following research methods to study the influence of genetics?
- longitudinal studies
 - cross-sectional studies
 - quasi-experimental studies
 - twin and adoption studies

Answer: D

Difficulty: 1

Page: 54

Skill: F

Learning Objective: 2.3

Bloom's Taxonomy Level: Remember

54. Monozygotic (MZ) twins are also known as _____.
a. fraternal twins
b. identical twins
c. dizygotic twins
d. conjoined twins

Answer: B

Difficulty: 1

Page: 54

Skill: F

Learning Objective: 2.3

Bloom's Taxonomy Level: Remember

55. What percentage of their genes do monozygotic twins have in common?
a. 40%
b. 60%
c. 80%
d. 100%

Answer: D

Difficulty: 1

Page: 54

Skill: F

Learning Objective: 2.3

Bloom's Taxonomy Level: Remember

56. Which of the following have a 100% genetic similarity to each other?
a. brother and sister
b. dizygotic twins
c. cousins
d. monozygotic twins

Answer: D

Difficulty: 1

Page: 54

Skill: F

Learning Objective: 2.3

Bloom's Taxonomy Level: Remember

57. If temperament were genetically based, which of the following would have the greatest degree of similarity?
a. monozygotic twins
Correct. Monozygotic twins have a 100% genetic similarity.
b. dizygotic twins
Incorrect. Dizygotic twins have a 40 to 60% genetic similarity.
c. parents and children
d. cousins

Answer: A

Difficulty: 1

Page: 54

Skill: C

Learning Objective: 2.3

Bloom's Taxonomy Level: Understand

58. Dizygotic (DZ) twins are also known as _____.

a. fraternal twins

Correct. Dizygotic twins result when a woman releases two ova and both are fertilized by sperm.

b. identical twins

Incorrect. Identical twins are monozygotic twins.

c. monozygotic twins

d. conjoined twins

Answer: A

Difficulty: 1

Page: 54

Skill: C

Learning Objective: 2.3

Bloom's Taxonomy Level: Understand

59. You are pushing a stroller that has two babies in it. One boy, dressed in blue, and one girl, dressed in pink. Someone stops you tells you how beautiful your baby boy and girl are. Then they ask if they are "identical twins." You tell them they are not, but what are you thinking?

a. It is impossible to have identical twins of different sexes.

Correct. Identical twins have exactly the same genotype, including sex.

b. They could be identical; that was a great question.

Incorrect. Identical twins share 100% of their genes, so they would both be of the same sex.

c. Fraternal twins are usually both girls.

d. Fraternal twins are usually both boys.

Answer: A

Difficulty: 1

Page: 54

Skill: A

Learning Objective: 2.3

Bloom's Taxonomy Level: Apply

% correct 85 a = 85 b = 13 c = 1 d = 1 r = .20

60. What percentage of their genes do dizygotic twins have in common?

a. 100%

b. 70 to 90%

c. 40 to 60%

d. 10 to 30%

Answer: C

Difficulty: 1

Page: 54

Skill: F

Learning Objective: 2.3

Bloom's Taxonomy Level: Remember

61. Which of the following have a 40 to 60% similarity of genetic inheritance?
- a. identical twins
 - b. fraternal twins
 - c. cousins
 - d. adopted siblings

Answer: B

Difficulty: 1

Page: 54

Skill: F

Learning Objective: 2.3

Bloom's Taxonomy Level: Remember

62. What type of study allows researchers to study whether certain behaviors or traits are more closely related to their genetics or their environment?
- a. genetics
 - b. temperament
 - c. chromosomal
 - d. adoption

Incorrect. Adoption studies examine the effects of environment.

Correct. Adoption studies let researchers observe the behavior of parents and children who share no genetic material.

Answer: D

Difficulty: 1

Page: 54

Skill: C

Learning Objective: 2.3

Bloom's Taxonomy Level: Understand

63. _____ is an estimate of the extent to which genes are responsible for the differences among persons within a specific population.
- a. Heritability
 - b. Reaction range
 - c. Genetic ratio
 - d. Environmental coefficient

Answer: A

Difficulty: 1

Page: 54

Skill: F

Learning Objective: 2.3

Bloom's Taxonomy Level: Remember

64. What is the name of the statistic that ranges from 0 to 1.00 and is used to estimate the degree to which genes are responsible for differences among people from a specific population?
- a. genetic correlation
 - b. heritability estimate
 - c. concordance rate
 - d. chromosomal correction

Answer: B

Difficulty: 1

Page: 54

Skill: F

Learning Objective: 2.3

Bloom's Taxonomy Level: Remember

65. The heritability estimate ranges from ____.
- a. 1 to 100
 - b. 0 to 1.00
 - c. 1 to 5
 - d. 0 to 20

Answer: B

Difficulty: 1

Page: 54

Skill: F

Learning Objective: 2.3

Bloom's Taxonomy Level: Remember

66. Professor Glossner proposes that the heritability of temperament is .80. Which of the following statements does Professor Glossner propose?
- a. A large portion of temperament is determined by genetics.
Correct. Heritability is an estimate of the extent to which genes are responsible for the differences among persons within a specific population. The value of the heritability estimate ranges from 0 to 1.00. The higher the heritability, the more the characteristic is believed to be influenced by genetics.
 - b. A large portion of temperament is determined by environment.
Incorrect. From the estimate provided, 20% is determined by the environment.
 - c. 80% of temperament is determined by the X chromosome.
 - d. 20% of temperament is determined by the X chromosome.

Answer: A

Difficulty: 2

Page: 54

Skill: C

Learning Objective: 2.3

Bloom's Taxonomy Level: Understand

67. Your friend's mother is extremely intelligent. As a result, even though he usually does OK in school (2.8 GPA), he is convinced that he is a genius. What do you think?
- a. Heritability estimates for intelligence are .50, so he is probably overestimating his intelligence.
Correct. Heritability estimates for intelligence are .50, so given his GPA, it is likely that he is exaggerating his level of intelligence.
 - b. He is definitely correct; he is likely a genius.
Incorrect. Heritability estimates for intelligence are .50, so given his GPA, it is likely that he is exaggerating his level of intelligence.
 - c. Actually, children of intellectually gifted adults are usually much lower in intelligence.
 - d. With a 2.8 GPA, he must be correct.

Answer: A

Difficulty: 2

Page: 54

Skill: A

Learning Objective: 2.3

Bloom's Taxonomy Level: Apply

68. According to your text, what percentage of variation of intelligence is estimated to be attributed to genetics?
- a. 25%
 - b. 50%
 - c. 75%
 - d. 100%

Answer: B

Difficulty: 1

Page: 54

Skill: F

Learning Objective: 2.3

Bloom's Taxonomy Level: Remember

69. What measure allows researchers to estimate not just genetic influence, but of how much the environment allows the genes to be expressed?
- a. genetic correlation
 - b. heritability estimate
- Correct. Heritability is an estimate of the extent to which genes are responsible for the differences among persons within a specific population.*
- c. concordance rate
- Incorrect. The heritability estimate includes not just genetics, but how much the environment allows the genes to be expressed.*
- d. chromosomal correction

Answer: B

Difficulty: 1

Page: 54

Skill: C

Learning Objective: 2.3

Bloom's Taxonomy Level: Understand

70. Concordance rate is defined as _____.
- a. the degree of similarity in characteristics among peoples of a cultural group
 - b. the influence of genes on development by comparing people who share different amounts of their genes
 - c. the percentage that indicates the degree of similarity in phenotype among pairs of family members
 - d. the degree of difference as expressed by variations in environment

Answer: C

Difficulty: 3

Page: 52

Skill: F

Learning Objective: 2.3

Bloom's Taxonomy Level: Remember

% correct 88 a = 6 b = 0 c = 88 d = 6 r = .29

71. If you were to design a research study that examines depression in relation to concordance rate, which of the following are the best groups to use for comparison?

- a. identical twins and fraternal twins

Correct. Monozygotic twins are identical with a 100% genetic similarity and dizygotic twins are fraternal with a 50% genetic similarity. Therefore, twin studies are important in estimating concordance rate.

- b. college students and the general public

- c. brothers and sisters

Incorrect. Brothers and sisters have a 50% genetic similarity. Therefore, a comparison with the same environment will be of little value.

- d. parent(s) and children

Answer: A

Difficulty: 2

Page: 54–55

Skill: A

Learning Objective: 2.3

Bloom's Taxonomy Level: Apply

72. When concordance rates are higher among monozygotic twins than dizygotic twins, this indicates which of the following?

- a. There is partially a genetic basis.

- b. There is partially an environmental basis.

- c. There is a 100% environmental cause.

- d. There is a 100% genetic cause.

Answer: A

Difficulty: 2

Page: 55

Skill: F

Learning Objective: 2.3

Bloom's Taxonomy Level: Remember

73. Which measure allows behavior geneticists to determine the percentage of similarity in phenotype among pairs of family members and is used mostly to examine mental disorders?

- a. genetic correlation

- b. heritability estimate

Incorrect. Similarity of phenotypes is estimated with the concordance rate.

- c. concordance rate

Correct. Concordance rates range from 0 to 100%. The higher the concordance rate, the more similar two persons are.

- d. chromosomal correction

Answer: C

Difficulty: 1

Page: 54–55

Skill: C

Learning Objective: 2.3

Bloom's Taxonomy Level: Understand

74. Which of the following pairs would have a higher concordance rate for schizophrenia?

- a. monozygotic twins

- b. dizygotic twins

- c. adopted siblings

- d. cousins

Answer: A

Difficulty: 3

Page: 55

Skill: F

Learning Objective: 2.3

Bloom's Taxonomy Level: Remember

% correct 80 a = 80 b = 18 c = 1 d = 1 r = .38

75. If John has schizophrenia, how likely is it that his monozygotic twin brother will also have schizophrenia?
- a. John's brother will also have schizophrenia.
 - b. There is an 80% probability that John's brother will have schizophrenia.
Incorrect. There is a 50% probability that his identical twin will also have schizophrenia.
 - c. There is a 50% probability that John's brother will have schizophrenia.
Correct. The concordance rate for schizophrenia among monozygotic, or identical, twins is 50%.
 - d. John's brother will not have schizophrenia.

Answer: C

Difficulty: 1

Page: 55

Skill: A

Learning Objective: 2.3

Bloom's Taxonomy Level: Apply

76. If John has schizophrenia, how likely is it that his dizygotic twin brother will also have schizophrenia?
- a. John's brother will also have schizophrenia.
 - b. There is a 38% probability that John's brother will have schizophrenia.
Incorrect. There is an 18% probability that his fraternal twin will also have schizophrenia.
 - c. There is an 18% probability that John's brother will have schizophrenia.
Correct. The concordance rate for schizophrenia among dizygotic, or fraternal, twins is 18%.
 - d. John's brother will not have schizophrenia.

Answer: C

Difficulty: 1

Page: 55

Skill: A

Learning Objective: 2.3

Bloom's Taxonomy Level: Apply

77. _____ refers to the continuous bidirectional interactions between genes and environment.
- a. Nature versus nurture
 - b. Epigenesis
 - c. Reaction range
 - d. Concordance rate

Answer: B

Difficulty: 1

Page: 55

Skill: F

Learning Objective: 2.4

Bloom's Taxonomy Level: Remember

78. Epigenesis suggests _____.
a. the influence of the environment on genes is strongest
b. the influence of genes on the environment is strongest
c. the interactions between genes and environment are bidirectional
d. there are no interactions between genes and environment

Answer: C

Difficulty: 1

Page: 55

Skill: F

Learning Objective: 2.4

Bloom's Taxonomy Level: Remember

79. The ____ is when genes establish boundaries for environmental influences rather than specifically denoting a particular characteristic.
a. reaction range
b. nature-nurture debate
c. genetic ratio
d. concordance rate

Answer: A

Difficulty: 1

Page: 55

Skill: F

Learning Objective: 2.4

Bloom's Taxonomy Level: Remember

80. Genes establish a potential of expression and environment determines where a person's phenotype will fall. What is this boundary of genetic influence?
a. environmental influence
b. gene boundaries
c. the inheritability estimate
Incorrect. The boundary of genetic influence is the reaction range.
d. the reaction range
Correct. The reaction range is when genes establish boundaries for environmental influences.

Answer: D

Difficulty: 2

Page: 55

Skill: C

Learning Objective: 2.4

Bloom's Taxonomy Level: Understand

81. The concept of reaction range proposes that ____ establish(es) boundaries, whereas ____ determines where a person falls within that range.
a. genetics; environment
b. environment; genetics
c. phenotype; genotype
d. polygenetic inheritance; homogenetic inheritance

Answer: A

Difficulty: 2

Page: 55

Skill: F

Learning Objective: 2.4

Bloom's Taxonomy Level: Remember

% correct 53 a = 53 b = 12 c = 0 d = 29 r = .48

82. Elizabeth was just born. Her father is 6'8" tall and her mother is 5'11" tall. It is quite likely that Elizabeth will be tall as well. However, the environment will play a role in her eventual height as well. The genetic potential for Elizabeth's height is known as the ____.

a. environmental range

b. reaction range

Correct. The reaction range is when genes establish boundaries for environmental influences.

c. genetic range

Incorrect. Elizabeth's genetic potential for height is her reaction range.

d. interaction range

Answer: B

Difficulty: 2

Page: 55

Skill: A

Learning Objective: 2.4

Bloom's Taxonomy Level: Apply

% correct 50 a = 9 b = 50 c = 32 d = 8 r = .40

83. Which of the following individuals illustrates a person who is closer to the peak of their reaction range?

a. Samir was born with a potential IQ of 145 (gifted IQ), was raised in an educationally enriching environment, and is a highly motivated learner.

Correct. Reaction range proposes that genetics establish limits, whereas one's environment places them on that scale. This means that Samir was born with a potential of an IQ of 145 and he is living within an environment that allows him to reach his fullest potential.

b. Joseppi, who was born with a potential IQ of 145 (gifted IQ), was raised in an educationally deprived environment and is an unmotivated learner.

Incorrect. Joseppi has the genetic potential; however, his environment is limiting.

c. Susan was born with the potential IQ of 80 (below average IQ), was raised in an educationally deprived environment and is an unmotivated learner.

d. Iman, who was born with the potential IQ of 80 (below average IQ), was raised in an educationally enriching environment and is an unmotivated learner who makes little progress.

Answer: A

Difficulty: 2

Page: 55

Skill: A

Learning Objective: 2.4

Bloom's Taxonomy Level: Apply

84. In the past few decades, the average height of adults in Western countries has not changed much. This indicates that adult height for these countries has reached the upper boundary of their ____.

a. socio-economic range

- b. health status
- c. reaction range

Correct. Reaction range proposes that genetics establish limits, whereas one's environment places them on that scale.

- d. range of genetic dominance

Incorrect. Adult height in Western countries has reached the upper boundary of their reaction range.

Answer: C

Difficulty: 2

Page: 55

Skill: C

Learning Objective: 2.4

Bloom's Taxonomy Level: Understand

85. Stress during pregnancy can have _____ effects on fetal development.
- a. positive
 - b. negative
 - c. no
 - d. beneficial

Answer: B

Difficulty: 1

Page: 56

Skill: F

Learning Objective: 2.4

Bloom's Taxonomy Level: Remember

86. According to Boku, et al. (2015), early life stress is associated with genetic changes that may be precursors to _____ later in life.
- a. psychiatric disorders
 - b. cardiovascular disorders
 - c. learning disorders
 - d. autism spectrum disorder

Answer: A

Difficulty: 1

Page: 55

Skill: F

Learning Objective: 2.4

Bloom's Taxonomy Level: Remember

87. Sandra Scarr and Kathleen McCartney proposed the theory of genotype → environment effects. Which subtype occurs in biological families because parents provide both genes and environment for their children?
- a. passive genotype → environment effects
- Correct. It's difficult to separate genetic influences from environmental influences because parents provide both.*
- b. evocative genotype → environment effects
- Incorrect. The genotype → environment effect in this case would be passive genotype → environment effect.*
- c. active genotype → environment effects
 - d. inactive genotype → environment effects

Answer: A

Difficulty: 1

Page: 57

Skill: C

Learning Objective: 2.5

Bloom's Taxonomy Level: Understand

88. Sandra Scarr and Kathleen McCartney proposed the theory of genotype → environment effects. Which subtype occurs when a person's inherited characteristics bring about responses from others in their environment?

a. passive genotype → environment effects

Incorrect. The genotype → environment effect in this case would be evocative genotype → environment effect.

b. evocative genotype → environment effects

Correct. An example would be a parent who buys more books for a child who seems to enjoy reading and thereby encourages the expression of her inherited interest in reading.

c. active genotype → environment effects

d. inactive genotype → environment effects

Answer: B

Difficulty: 1

Page: 57

Skill: C

Learning Objective: 2.5

Bloom's Taxonomy Level: Understand

89. Sandra Scarr and Kathleen McCartney proposed the theory of genotype → environment effects. Which subtype occurs when people seek out environments that correspond to their genotypic characteristics?

a. passive genotype → environment effects

b. evocative genotype → environment effects

c. active genotype → environment effects

Correct. An example would be an outgoing young adult seeking a career where she can interact with other people all day.

d. inactive genotype → environment effects

Incorrect. The genotype → environment effect in this case would be active genotype → environment effect.

Answer: C

Difficulty: 1

Page: 57–58

Skill: C

Learning Objective: 2.5

Bloom's Taxonomy Level: Understand

% correct 81 a = 7 b = 10 c = 81 d = 2 r = .37

90. Which of the following is the best example of active genotype → environment effects?

a. Since Jacob is good at math, his parents encourage further learning by playing math games with him each night.

Incorrect. The evocative genotype → environment results when a person's inherited characteristics evoke response from others.

b. Because everyone in the Martin family burns easily, they rarely go to the beach

and have moved to a colder weather State.

Correct. Active genotype → environment effects state that results occur when people seek out environments that correspond to their genotypic characteristics.

- c. Maria has a green thumb and can grow anything in her garden. When her children were small, they played in the garden next to her. As they grew up, each child decided to go into agricultural fields.
- d. Millie was a very round baby and was big for her age. Everyone in her family made comments about her large size and nicknamed her “Big Millie.”

Answer: B

Difficulty: 3

Page: 57–58

Skill: A

Learning Objective: 2.5

Bloom’s Taxonomy Level: Apply

91. What is the process of regular cell division called?

- a. mitosis
- b. meiosis
- c. sex differentiation
- d. dimorphic cell division

Answer: A

Difficulty: 1

Page: 59

Skill: F

Learning Objective: 2.6

Bloom’s Taxonomy Level: Remember

92. _____ is known as the normal process of cell reproduction in which chromosomes duplicate themselves and the cells divide to become two cells.

- a. Meiosis
- b. Mitosis
- c. Polar bodies
- d. Crossing over

Answer: B

Difficulty: 2

Page: 59

Skill: F

Learning Objective: 2.6

Bloom’s Taxonomy Level: Remember

93. What are the only cells in the human body that do not contain 46 chromosomes?

- a. lens cells
- b. neurons
- c. hair cells
- d. gametes

Answer: D

Difficulty: 1

Page: 60

Skill: F

Learning Objective: 2.6

Bloom’s Taxonomy Level: Remember

% correct 81 a = 4 b = 8 c = 7 d = 81 r = .31

94. Human sex cells, sperm and ova, each contain how many chromosomes?

- a. 23
- b. 46
- c. 23 pairs
- d. 46 pairs

Answer: A

Difficulty: 1

Page: 60

Skill: F

Learning Objective: 2.6

Bloom's Taxonomy Level: Remember

95. Sperm and ova are produced by which of the following, respectively?

- a. penis and uterus
- b. scrotum and vulva
- c. testes and ovaries
- d. kidneys and pancreas

Answer: C

Difficulty: 1

Page: 60

Skill: F

Learning Objective: 2.6

Bloom's Taxonomy Level: Remember

96. Through what process are gametes formed?

- a. mitosis
- b. meiosis
- c. sex differentiation
- d. dimorphic cell division

Answer: B

Difficulty: 1

Page: 60

Skill: F

Learning Objective: 2.6

Bloom's Taxonomy Level: Remember

97. In the process of meiosis, how many chromosomes does the cell originally have, and how many chromosomes are present when the gametes are formed?

- a. 92, 46
- b. 69, 46
- c. 46, 23
- d. 23, 23

Answer: C

Difficulty: 1

Page: 60

Skill: F

Learning Objective: 2.6

Bloom's Taxonomy Level: Remember

98. At the conclusion of meiosis, how many sperm cells have been formed?
- a. 2
 - b. 4
 - c. 8
 - d. 16

Answer: B

Difficulty: 2

Page: 60

Skill: F

Learning Objective: 2.6

Bloom's Taxonomy Level: Remember

99. At the conclusion of meiosis, how many ova have been formed?
- a. 1 with 3 polar bodies
 - b. 2 with 2 polar bodies
 - c. 3 with 1 polar body
 - d. 4 with no polar bodies

Answer: A

Difficulty: 1

Page: 60

Skill: F

Learning Objective: 2.6

Bloom's Taxonomy Level: Remember

100. According to the text, why does the ovum have an excessive amount of cytoplasm?
- a. so that there is ample room for the sperm's nucleus once it arrives
 - b. to help protect against invading cells
 - c. so that the ovum can be easily found by the sperm cells
 - d. it will be the ovum's main source of nutrition
- Incorrect. Cytoplasm will be the main source of nutrition for the ovum.*
- Correct. Cytoplasm is the ovum's source of nutrients for the first two weeks after fertilization.*

Answer: D

Difficulty: 1

Page: 60

Skill: C

Learning Objective: 2.6

Bloom's Taxonomy Level: Understand

101. What is the process that allows mixing the combinations of genes in a single chromosome, resulting in a virtually infinite possible combination of genes?
- a. sampling from a large genetic pool
 - b. gamete swapping
 - c. crossing over
 - d. mitosis

Answer: C

Difficulty: 1

Page: 60

Skill: F

Learning Objective: 2.6

Bloom's Taxonomy Level: Remember

102. The typical male ejaculation expels how many sperm?
- a. 100 to 300
 - b. 100 to 300 thousand
 - c. 100 to 300 million
 - d. 100 to 300 billion

Answer: C

Difficulty: 2

Page: 60

Skill: F

Learning Objective: 2.6

Bloom's Taxonomy Level: Remember

103. Males begin producing sperm ____, whereas females produce ova ____.
- a. at puberty; at puberty
 - b. while in the womb; at puberty
 - c. at puberty; while in the womb
 - d. while in the womb; while in the womb

Answer: C

Difficulty: 2

Page: 60

Skill: F

Learning Objective: 2.6

Bloom's Taxonomy Level: Remember

104. How many ova are present in a female adolescent's ovaries in puberty?
- a. 20,000
 - b. 40,000
 - c. 60,000
 - d. 80,000

Answer: B

Difficulty: 1

Page: 60

Skill: F

Learning Objective: 2.6

Bloom's Taxonomy Level: Remember

105. Most women will run out of fertile ova by the time they reach their ____.
- a. 30s
 - b. 40s
 - c. 50s
 - d. 60s

Answer: B

Difficulty: 1

Page: 60

Skill: F

Learning Objective: 2.6

Bloom's Taxonomy Level: Remember

106. Lamar and Chandra recently got married and have been discussing how long they could wait to have children. Based upon the text, at what age, statistically speaking, will Chandra run out of fertile ova?

a. 30s

Incorrect. Most women run out of ova at some point in their 40s.

b. 40s

Correct. By contrast, men produce sperm throughout their adult lives, although the quality and quantity may decline with age.

c. 50s

d. 60s

Answer: B

Difficulty: 1

Page: 60

Skill: A

Learning Objective: 2.6

Bloom's Taxonomy Level: Apply

107. How many days into the woman's menstrual cycle does ovulation occur?

a. 2

b. 14

c. 28

d. 40

Answer: B

Difficulty: 1

Page: 61

Skill: F

Learning Objective: 2.7

Bloom's Taxonomy Level: Remember

108. Fertilization is most likely to occur when intercourse occurs ____.

a. within 2 days before and on the day of ovulation

Correct. It can take sperm from a few hours to a whole day to travel up the fallopian tubes.

b. 2 days after ovulation

Incorrect. Fertilization is likely to occur within two days before and on the day of ovulation.

c. 5 days after ovulation

d. 1 week after ovulation

Answer: A

Difficulty: 1

Page: 61

Skill: C

Learning Objective: 2.7

Bloom's Taxonomy Level: Understand

109. According to the text, how long can sperm live in the woman's body after ejaculation?

a. 12 hours

b. 1 day

c. 5 days

d. 1 week

Answer: C

Difficulty: 1

Page: 61

Skill: F

Learning Objective: 2.7

Bloom's Taxonomy Level: Remember

110. When the ovum and sperm cells unite and fertilization has occurred, what has just been formed?

- a. the fetus
- b. the embryo
- c. the blastocyst

Incorrect. When the ovum and sperm cells unite, the zygote has been formed.

- d. the zygote

Correct. The zygote's 46 paired chromosomes constitute the new organism's unique genotype.

Answer: D

Difficulty: 1

Page: 61–62

Skill: C

Learning Objective: 2.7

Bloom's Taxonomy Level: Understand

111. There are between 100 and 300 million sperm in one ejaculation. How many will make it to the ovum during sexual intercourse?

- a. 5 million
- b. 500,000 thousand
- c. 1000
- d. a few hundred

Answer: D

Difficulty: 1

Page: 61

Skill: F

Learning Objective: 2.7

Bloom's Taxonomy Level: Remember

112. When the ovum is fertilized by the sperm, this is called ____.

- a. fertility
- b. conception
- c. cervix
- d. gametes

Answer: B

Difficulty: 2

Page: 61–62

Skill: F

Learning Objective: 2.7

Bloom's Taxonomy Level: Understand

113. Which of the following has increased due to advancements in fertility treatments?

- a. monozygotic twins
- b. dizygotic twins
- c. conjoined twins

- d. Siamese twins

Answer: B

Difficulty: 2

Page: 63

Skill: F

Learning Objective: 2.8

Bloom's Taxonomy Level: Remember

114. How is infertility defined?
- a. the presence of endometriosis
 - b. when the male has a low sperm count
 - c. inability to conceive after trying for a year
 - d. no desire to have children

Answer: C

Difficulty: 1

Page: 62

Skill: C

Learning Objective: 2.8

Bloom's Taxonomy Level: Understand

115. According to the text, infertility rates have remained constant over the past century at the rate of ____.
- a. 1–5%
 - b. 10–15%
 - c. 20–25%
 - d. 30–35%

Answer: B

Difficulty: 1

Page: 62

Skill: F

Learning Objective: 2.8

Bloom's Taxonomy Level: Remember

116. Over the past century, the rate of infertility in the United States has ____.
- a. remained the same at 35%
 - b. declined to 5%
 - c. remained the same at 10–15%
 - d. declined to 10–25%

Answer: C

Difficulty: 3

Page: 62

Skill: F

Learning Objective: 2.8

Bloom's Taxonomy Level: Remember

117. Which of the following are three main sources for male infertility?
- a. erectile difficulties, decreased libido, and low sperm count
 - b. sperm death, poor sperm mobility, and low seminal fluid
 - c. low sperm production, poor sperm quality, and poor sperm movement
 - d. low sperm production, increased libido, and poor sperm movement

Answer: C

Difficulty: 2

Page: 62

Skill: F

Learning Objective: 2.8

Bloom's Taxonomy Level: Remember

118. It takes approximately three times longer for men over the age of 40 to impregnate a partner than it does for men under age 25. Why?
- a. lack of libido
 - b. endometriosis
 - c. decrease in the quantity and quality of their sperm
 - d. their partner's fertility

Answer: C

Difficulty: 1

Page: 62

Skill: C

Learning Objective: 2.8

Bloom's Taxonomy Level: Understand

119. Rashid and Varsha are seeking fertility treatment and were informed by their physician that Rashid's sperm count is low and the quality is poor. Which of the following suggestions were made to help increase his sperm production and quality?
- a. Quit smoking, decrease alcohol consumption, and do not abuse drugs.
 - b. Start a calcium regimen, consume more iron, and take a multivitamin.
 - c. Exercise daily, increase caffeine consumption, and reduce stress.
 - d. Avoid wearing boxer shorts and switch to tighter underwear.

Answer: A

Difficulty: 2

Page: 62

Skill: C

Learning Objective: 2.8

Bloom's Taxonomy Level: Understand

120. _____ is the most common cause of infertility in women.
- a. Alcohol
 - b. Stress
 - c. Age
 - d. Smoking

Answer: C

Difficulty: 2

Page: 62

Skill: F

Learning Objective: 2.8

Bloom's Taxonomy Level: Remember

121. In most cultures and throughout history, infertility has been regarded mostly as a problem that originates from _____.
- a. a lack of spiritual commitment
 - b. the male
 - c. the female
 - d. both the male and female

Answer: C

Difficulty: 1

Page: 63

Skill: F

Learning Objective: 2.8

Bloom's Taxonomy Level: Remember

122. What is the oldest effective treatment for infertility?
- a. in vitro fertilization
 - b. nutritional supplements
 - c. surrogate motherhood
 - d. artificial insemination

Answer: D

Difficulty: 1

Page: 63

Skill: F

Learning Objective: 2.8

Bloom's Taxonomy Level: Remember

123. _____ is the process in which sperm is injected directly into the uterus, and is the simplest and most effective reproductive treatment.
- a. In vitro fertilization
 - b. Artificial insemination
 - c. Amniocentesis
 - d. Infertility injections

Answer: B

Difficulty: 2

Page: 63

Skill: F

Learning Objective: 2.8

Bloom's Taxonomy Level: Remember

124. What is the success rate of artificial insemination?
- a. 10%
 - b. 40%
 - c. 70%
 - d. 100%

Answer: C

Difficulty: 1

Page: 63

Skill: F

Learning Objective: 2.8

Bloom's Taxonomy Level: Remember

125. What is the most common approach to female infertility if the woman cannot ovulate properly?
- a. eliminating nutritional deficiencies
 - b. fertility drugs
 - c. increasing the frequency of intercourse
 - d. herbal therapy

Answer: B

Difficulty: 1

Page: 63

Skill: F

Learning Objective: 2.8

Bloom's Taxonomy Level: Remember

126. More than half of the women who take fertility drugs become pregnant in how many cycles (months)?
- a. 2
 - b. 6
 - c. 10
 - d. 20

Answer: B

Difficulty: 1

Page: 63

Skill: F

Learning Objective: 2.8

Bloom's Taxonomy Level: Remember

127. Which of the following are known risks associated with fertility drugs?
- a. hypertension, cardiac arrhythmias, and gastrointestinal problems
 - b. depression, anxiety, and suicidal thoughts
 - c. blood clots, kidney damage, and damage to the ovaries
 - d. diabetes, endometriosis, and eczema

Answer: C

Difficulty: 3

Page: 63

Skill: F

Learning Objective: 2.8

Bloom's Taxonomy Level: Remember

128. Depending on the drug, what percentage of multiple births results from using fertility drugs?
- a. 1–2%
 - b. 10–25%
 - c. 40–55%
 - d. 60–75%

Answer: B

Difficulty: 1

Page: 63

Skill: F

Learning Objective: 2.8

Bloom's Taxonomy Level: Remember

129. A friend tells you that she is on a fertility drug to increase the number of follicles during ovulation and is so excited about the possibility of having twins. Based upon the reading, would you agree that she has an increased possibility of conceiving twins?
- a. Yes, fertility drugs increase the rate of multiple births by increasing the probability of releasing more than one ovum; which might lead to fraternal twins.
 - b. No, the use of fertility drugs is in no way related in giving birth to twins.

- c. No, having twins is unpredictable and modern medicine has not been able to alter the process in any way.
- d. Yes, infertility drugs have shown to increase the rate of identical twins; however these pregnancies have a much higher rate of miscarriage than non-multiple pregnancies.

Answer: A

Difficulty: 3

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Skill: A

Learning Objective: 2.8

Bloom's Taxonomy Level: Apply

130. What fertility technique extracts ova, combines them with sperm, and, after a few days, implants two or three blastocysts into the woman's uterus?
- a. in vitro fertilization
 - b. nutritional supplements
 - c. surrogate motherhood
 - d. artificial insemination

Answer: A

Difficulty: 1

Page: 64

Skill: F

Learning Objective: 2.8

Bloom's Taxonomy Level: Remember

Short Answer Questions

131. Give an example that explains the difference between phenotype and genotypes.

Answer: Two identical twins will have the same genotype because their genetic makeup is exactly the same, but if they were adopted into homes with parents who had different views about health, they may have different phenotypes. One may be overweight because eating junk food is the norm, whereas the other twin may have a trim athletic build because fitness was always a part of the family's routine and involvement in sports was encouraged.

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Learning Objective: 2.1

Bloom's Taxonomy Level: Apply

132. You have likely heard people say, "The father is the one who determines the sex of the child." Explain whether or not this is true.

Answer: Females' eggs have two X chromosomes and males' sperm contains either an X or a Y. When a zygote is formed, it always gets an X from the female, but it can get either an X or a Y from the male. If it gets a Y, the result is a male; if it gets an X, it becomes a female.

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Learning Objective: 2.2

Bloom's Taxonomy Level: Understand

133. Although often viewed as the stronger sex, explain why males are actually more vulnerable.

Answer: Because the sex chromosome of females is composed of two Xs, if one of these Xs contains a recessive gene for a disorder or disease, it will not manifest itself due to the other

X overriding it and not allowing it to be expressed. Since the sex chromosome makeup of the male is XY, if there is a recessive gene for a disorder on his X chromosome, it will express itself because there is not another X chromosome that may contain a dominant gene to block its expression.

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Learning Objective: 2.2

Bloom's Taxonomy Level: Understand

134. The concordance rate for schizophrenia among identical twins is .40; the concordance rate for schizophrenia is only .10 if a person's parent has schizophrenia. Explain what these numbers mean. Include a discussion of nature and nurture in your response.

Answer: This means that if one MZ twin has schizophrenia, there is a 40% chance that the other twin will also develop this disorder, whereas there is only a 10% chance of developing it if your mother or father has it. The higher rate for identical twins means that there is a genetic component to schizophrenia. However, there is still a 60% chance of not getting schizophrenia if your MZ has it, so environment plays a greater role than genes.

Page: 54–54

Learning Objective: 2.3

Bloom's Taxonomy Level: Understand

135. What is a reaction range? Provide an example to illustrate.

Answer: A reaction range refers to the range of possibilities that a person is capable of as set forth by their genetic makeup. It is similar to one's genetic potential. If a person's parents are both short in stature with a petite frame, it is genetically possible that the child will have a body type suitable to be a jockey. However, the environment plays an important role; if the person eats a high fat diet and does not maintain her health, she may not have the trim, strong build required for this work.

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Learning Objective: 2.4

Bloom's Taxonomy Level: Apply

Essay Questions

136. Explain how DZ and MZ twins are formed. Include a discussion of how twin studies help to inform the nature-nurture debate.

Answer: DZ twins result when the female releases two eggs instead of one and each is fertilized with a sperm. MZ twins result when a zygote is formed and it divides. MZ twins share 100% of their genotype, whereas DZ twins share approximately 40–60% of their genetic inheritance. When MZ twins are more similar than DZ twins this indicates that genetics play a strong role.

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Learning Objective: 2.3

Bloom's Taxonomy Level: Understand

TOTAL ASSESSMENT GUIDE

Chapter 2-Section 2

Prenatal Development and Prenatal Care

Learning Objective		Remember	Understand	Apply
Learning Objective 2.9	Multiple Choice	1, 2, 3, 5, 7, 9, 11, 12, 13	4, 6, 8, 10	
	Short Answer			
	Essay		115	
Learning Objective 2.10	Multiple Choice	14, 15, 17, 21, 23, 24	16, 18, 19, 20, 22, 25, 26, 27	
	Short Answer			
	Essay		115	
Learning Objective 2.11	Multiple Choice	29, 31, 33, 34, 39, 41, 42, 43, 44, 48	28, 30, 35, 36, 45, 46, 47, 49, 50, 52, 53	32, 37, 38, 40, 51, 54
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Learning Objective 2.12	Multiple Choice	55, 57, 58, 59, 69, 71, 75	56, 61, 62, 64, 65, 66, 68, 70, 72, 73, 74	60, 63, 67
	Short Answer		109, 111	108
	Essay			
Learning Objective 2.13	Multiple Choice	76, 78, 79, 80, 83, 84, 88, 90, 91, 92, 95, 100, 101, 103, 104	77, 81, 82, 85, 86, 87, 89, 93, 94, 96, 97, 98, 99, 106	102, 105
	Short Answer	112, 113, 114	110	
	Essay			117

Section 2 Prenatal Development and Prenatal Care

Test Item File

Multiple Choice Questions

1. What are the first 2 weeks after fertilization referred to as?
- the germinal period
 - the embryonic period
 - the fetal period
 - the fertilization period

Answer: A

Difficulty: 1

Page: 7

Skill: F

Learning Objective: 2.9

Bloom's Taxonomy Level: Remember

2. The first 2 weeks after fertilization is known as ____.
- conception
 - the germinal period
 - the embryonic period
 - the fetal period

Answer: B

Difficulty: 1

Page: 67

Skill: F

Learning Objective: 2.9

Bloom's Taxonomy Level: Remember

% correct 94 a = 0 b = 94 c = 6 d = 0 r = .18

3. By the end of the first week following conception, the fertilized egg now has approximately 100 cells and is known as the ____.
- neonate
 - fetus
 - embryo
 - blastocyst

Answer: D

Difficulty: 2

Page: 67

Skill: F

Learning Objective: 2.9

Bloom's Taxonomy Level: Remember

% correct 46 a = 15 b = 23 c = 15 d = 46 r = .47

4. Which of the following is a correct sequence of development during the germinal period?
- placenta, implantation, blastocyst
- Incorrect. During the germinal period, the zygote divides and forms the blastocyst, which implants in the uterus and begins forming the amnion, placenta, and umbilical cord.*
- blastocyst, implantation, placenta

Correct. During the germinal period, the zygote divides and forms the blastocyst, which implants in the uterus and begins forming the amnion, placenta, and umbilical cord.

- c. placenta, blastocyst, implantation
- d. implantation, placenta, blastocyst

Answer: B

Difficulty: 3

Page: 67

Skill: C

Learning Objective: 2.9

Bloom's Taxonomy Level: Understand

5. The blastocyst will implant itself into the uterine wall during the ____ after conception.
- a. first day
 - b. second day
 - c. first week
 - d. second week

Answer: D

Difficulty: 2

Page: 67

Skill: F

Learning Objective: 2.9

Bloom's Taxonomy Level: Remember

6. When the blastocyst becomes firmly embedded into the lining of the uterus, what has happened?
- a. implantation
- Correct. This occurs during the second week after conception.*
- b. fertilization
- Incorrect. When the blastocyst becomes embedded into the uterus, implantation has occurred.*
- c. conception
 - d. pregnancy

Answer: A

Difficulty: 1

Page: 67

Skill: C

Learning Objective: 2.9

Bloom's Taxonomy Level: Understand

7. When does implantation of the blastocyst occur?
- a. at conception
 - b. during the second week after conception
 - c. during the second month after conception
 - d. during the second trimester after conception

Answer: B

Difficulty: 2

Page: 67

Skill: F

Learning Objective: 2.9

Bloom's Taxonomy Level: Remember

8. According to the text, what structure provides a protective environment in which the fetus's temperature is well regulated and protects the fetus from friction caused by the mother's movements?
- a. the placenta
 - b. the umbilical cord
 - c. the amnion
 - d. the germinal structure
- Incorrect. The amnion protects the fetus.*
- Correct. The amnion develops from the trophoblast during the second week during the second week after conception.*

Answer: C

Difficulty: 2

Page: 67

Skill: C

Learning Objective: 2.9

Bloom's Taxonomy Level: Understand

% correct 64 a = 36 b = 0 c = 64 d = 0 r = .21

9. The outer layer of cells that will form the structures that will provide protection and nourishment for the newly formed organism is the ____.
- a. umbilical cord
 - b. placenta
 - c. embryonic disk
 - d. trophoblast

Answer: D

Difficulty: 3

Page: 67

Skill: F

Learning Objective: 2.9

Bloom's Taxonomy Level: Remember

10. The inner layer of the blastocyst that will become the embryo is the ____.
- a. umbilical cord
 - b. placenta
 - c. embryonic disk
 - d. trophoblast
- Incorrect. The inner layer of the blastocyst is the embryonic disk.*
- Correct. This is part of the blastocyst that is formed about one week after conception.*

Answer: C

Difficulty: 2

Page: 67

Skill: C

Learning Objective: 2.9

Bloom's Taxonomy Level: Understand

11. The ____ is/are the organ(s) that allow(s) nutrients to pass from the mother to the child and allow(s) waste to pass from the child to the mother during the course of pregnancy.
- a. uterus
 - b. placenta
 - c. fallopian tubes
 - d. ovaries

Answer: B

Difficulty: 1

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Skill: F

Learning Objective: 2.9

Bloom's Taxonomy Level: Remember

12. What structure provides nutrients from the mother to the fetus, takes waste products away from the fetus, and protects the fetus from bacteria and waste in the mother's blood?
- a. the placenta
 - b. the umbilical cord
 - c. the amnion
 - d. the germinal structure

Answer: A

Difficulty: 2

Page: 67

Skill: F

Learning Objective: 2.9

Bloom's Taxonomy Level: Remember

% correct 35 a = 35 b = 41 c = 12 d = 0 r = .42

13. What percentage of blastocysts do not implant successfully?
- a. 15%
 - b. 25%
 - c. 50%
 - d. 75%

Answer: C

Difficulty: 1

Page: 67

Skill: F

Learning Objective: 2.9

Bloom's Taxonomy Level: Remember

14. The embryonic period lasts from the ____ to the ____.
- a. 1st week; 4th week
 - b. 3rd week; 8th week
 - c. 6th week; 16th week
 - d. 12th week; 32nd week

Answer: B

Difficulty: 2

Page: 67

Skill: F

Learning Objective: 2.10

Bloom's Taxonomy Level: Remember

% correct 78 a = 17 b = 78 c = 2 d = 3 r = .40

15. The embryonic period is ____ weeks long.
- a. 4
 - b. 6
 - c. 8
 - d. 10

Answer: B

Difficulty: 1

Page: 67

Skill: F

Learning Objective: 2.10

Bloom's Taxonomy Level: Remember

16. During the embryonic period, the ectoderm is formed, which will become the ____.
- a. skin, hair, nails, sensory organs and nervous system
Correct. The ectoderm is formed within the third week after conception.
 - b. muscles, bones, reproductive system and circulatory system
Incorrect. During the embryonic period, the ectoderm will become the skin, hair, nails, sensory organs and nervous system.
 - c. digestive and respiratory systems
 - d. hormonal and endocrine systems

Answer: A

Difficulty: 2

Page: 67

Skill: C

Learning Objective: 2.10

Bloom's Taxonomy Level: Understand

17. The outer layer of the embryonic disk will become ____.
- a. the brain and spinal cord
 - b. skin, hair, nails, and the nervous system
 - c. muscle, bones, and the circulatory system
 - d. the digestive and respiratory systems

Answer: B

Difficulty: 3

Page: 67

Skill: F

Learning Objective: 2.10

Bloom's Taxonomy Level: Remember

18. During the embryonic period, the mesoderm is formed, which will become the ____.
- a. skin, hair, nails, sensory organs, and nervous system
 - b. muscles, bones, reproductive system, and circulatory system
Correct. The mesoderm is formed within the third week after conception.
 - c. digestive and respiratory systems
Incorrect. During the embryonic period, the mesoderm is formed, which will become the muscles, bones, reproductive system and circulatory system.
 - d. hormonal and endocrine systems

Answer: B

Difficulty: 2

Page: 67

Skill: C

Learning Objective: 2.10

Bloom's Taxonomy Level: Understand

19. During the embryonic period, the endoderm is formed, which will become the ____.
- a. skin, hair, nails, sensory organs and nervous system

Incorrect. During the embryonic period, the endoderm is formed, which will become the digestive and respiratory systems.

- b. muscles, bones, reproductive system and circulatory system
- c. digestive and respiratory systems
- Correct. The endoderm is formed within the third week after conception.*
- d. hormonal and endocrine systems

Answer: C

Difficulty: 2

Page: 67

Skill: C

Learning Objective: 2.10

Bloom's Taxonomy Level: Understand

20. What embryonic structure will become the brain and spinal cord?

- a. brain stem
- b. neural blast

Incorrect. The neural tube will become the brain and spinal cord.

- c. neural tube
- Correct. The neural tube is formed by the end of the third week after conception.*
- d. cerebral cortex

Answer: C

Difficulty: 2

Page: 67

Skill: C

Learning Objective: 2.10

Bloom's Taxonomy Level: Understand

% correct 65 a = 12 b = 6 c = 65 d = 18 r = .50

21. By the end of the third week, the neural tube begins to form. This structure will eventually become ____.

- a. the skull and torso
- b. the legs and arms
- c. the spinal cord and brain
- d. the lungs and the digestive system

Answer: C

Difficulty: 2

Page: 67

Skill: F

Learning Objective: 2.10

Bloom's Taxonomy Level: Remember

% correct 98 a = 0 b = 0 c = 98 d = 2 r = .22

22. Damage to the neural tube would consist of ____.

- a. problems with the formation of the digestive system
- b. the umbilical cord not connecting the placenta to the uterus
- Incorrect. The umbilical cord is not the neural tube.*
- c. the skin not developing pores and hair follicles
- d. the spinal cord and brain not developing correctly

Correct. The neural tube is formed by the end of the third week after conception and creates the brain and spinal cord.

Answer: D

Difficulty: 2

Page: 67

Skill: C

Learning Objective: 2.10

Bloom's Taxonomy Level: Understand

23. At what rate are neurons produced during the embryonic period?
- a. 25 per minute
 - b. 250 per minute
 - c. 250,000 per minute
 - d. 2 billion per minute

Answer: C

Difficulty: 1

Page: 67

Skill: F

Learning Objective: 2.10

Bloom's Taxonomy Level: Remember

24. By the end of the fourth week, the embryo's head is apparent and the eyes, nose, mouth, and ears begin to form. How long is the embryo at this point?
- a. 1/4 inch
 - b. 4 inches
 - c. 8 inches
 - d. 12 inches

Answer: A

Difficulty: 1

Page: 68

Skill: F

Learning Objective: 2.10

Bloom's Taxonomy Level: Remember

25. Nearly all of the major organs are formed during what period?
- a. genetic
 - b. zygotic
 - c. fetal
 - d. embryonic
- Incorrect. The major organs are formed during the embryonic period.*
- Correct. This period lasts from the third to eighth week after conception.*

Answer: D

Difficulty: 2

Page: 68

Skill: C

Learning Objective: 2.10

Bloom's Taxonomy Level: Understand

% correct 63 a = 0 b = 7 c = 29 d = 63 r = .33

26. At the end of the eighth week, the embryo is only one inch long and weighs just one gram. According to the text, what can the embryo now do?
- a. step in place
 - b. suck its thumb
- Incorrect. The embryo can respond to touch during this time.*

- c. vocalize
- d. respond to touch

Correct. The embryo's sense of touch is especially sensitive around its mouth at this point.

Answer: D

Difficulty: 2

Page: 68

Skill: C

Learning Objective: 2.10

Bloom's Taxonomy Level: Understand

27. By the end of the eighth week, the embryo ____.

- a. is unrecognizable as human
- b. responds to touch and can move

Correct. The embryo's sense of touch is especially sensitive around its mouth at this point.

- c. has yet to develop major organs
- d. has fully developed sex organs

Incorrect. By the end of the eighth week, the embryo responds to touch and all of the main organs are formed except the sex organs.

Answer: B

Difficulty: 2

Page: 68

Skill: C

Learning Objective: 2.10

Bloom's Taxonomy Level: Understand

28. The fetal period ends at birth. When does it begin?

- a. 4 weeks after conception

Incorrect. The fetal period begins nine weeks after conception.

- b. 9 weeks after conception

Correct. The fetal period follows the embryonic period.

- c. 12 weeks after conception
- d. 15 weeks after conception

Answer: B

Difficulty: 2

Page: 68

Skill: C

Learning Objective: 2.11

Bloom's Taxonomy Level: Understand

29. The ____ period lasts from the ninth week after conception until birth.

- a. germinal
- b. embryonic
- c. fetal
- d. zygote

Answer: C

Difficulty: 1

Page: 68

Skill: F

Learning Objective: 2.11

Bloom's Taxonomy Level: Remember

30. Fernando and Rebecca are anxious to know the sex of their baby. It would not be until the end of the ____ month of pregnancy that they can find out, because the genitalia will not have fully formed before then.
- a. 2nd
 - b. 3rd
 - c. 4th
 - d. 5th
- Correct. Fingernails, toenails, and taste buds begin to develop at the same time.*
- Incorrect. By the end of the third month, genitalia are formed.*

Answer: B

Difficulty: 2

Page: 68

Skill: C

Learning Objective: 2.11

Bloom's Taxonomy Level: Understand

31. According to the text, how early can the fetus's heartbeat be heard with a stethoscope?
- a. during the third week
 - b. during the third month
 - c. during the fifth month
 - d. during the seventh month

Answer: B

Difficulty: 1

Page: 68

Skill: F

Learning Objective: 2.11

Bloom's Taxonomy Level: Remember

32. Your friend just had her first pregnancy check-up and is just starting her second month of pregnancy. She is very upset that she was not given the chance to hear her fetus's heartbeat. Remembering what you learned in developmental class, what should you tell her?
- a. That probably means that the fetus died.
 - b. She will not be able to hear the heartbeat with a stethoscope until the third month.
 - c. The fetus probably has a heart problem.
 - d. The doctor did not want her to hear the fetal heartbeat.
- Incorrect. It is not likely that the heartbeat can be heard until the third month.*
- Correct. It is not until the third month of pregnancy that a fetal heartbeat can typically be heard using a stethoscope.*

Answer: B

Difficulty: 2

Page: 68

Skill: A

Learning Objective: 2.11

Bloom's Taxonomy Level: Apply

33. At three months, the average fetus ____.
- a. weighs three ounces and is three inches long
 - b. weighs three pounds and is three inches long

- c. has developed three brain structures
- d. has developed three sensory systems

Answer: A

Difficulty: 1

Page: 68

Skill: F

Learning Objective: 2.11

Bloom's Taxonomy Level: Remember

34. By the end of the third month, the typical fetus can be described as “three times three” because ____.
- a. it has been three months, the fetus weighs three ounces, and is three inches long
 - b. it weighs three pounds, is three inches long, and has three senses
 - c. three major systems have developed: brain, heart, and lungs
 - d. all three facial features are clearly distinguishable

Answer: A

Difficulty: 2

Page: 68

Skill: F

Learning Objective: 2.11

Bloom's Taxonomy Level: Remember

35. Prenatal development is divided into segments. What are these segments called?
- a. fetalesters
 - b. prenatal sections
 - c. semesters
 - d. trimesters
- Incorrect. These segments are referred to as trimesters.*
- Correct. Prenatal development is divided into 3-month trimesters.*

Answer: D

Difficulty: 1

Page: 68

Skill: C

Learning Objective: 2.11

Bloom's Taxonomy Level: Understand

36. By the end of what month do pregnant women typically feel the movements of the fetus?
- a. second
 - b. fourth
 - c. sixth
 - d. eight
- Correct. The fetus's movements diversify over the course of the second trimester.*
- Incorrect. Pregnant women typically feel the movement of the fetus during the fourth month.*

Answer: B

Difficulty: 1

Page: 68

Skill: C

Learning Objective: 2.11

Bloom's Taxonomy Level: Understand

37. Your sister-in-law just finished her fourth month of pregnancy. She swears that she can feel the movements of her fetus. Is this likely? After what month do women generally feel the fetus move?

- a. Yes, she has probably been feeling the fetus move since the second month.
- b. Yes, pregnant women can usually begin feeling the fetus's movements by the fourth month of pregnancy.

Correct. The fetus's movements begin to diversify at this time, and include kicking, hiccupping, and thumb sucking.

- c. No, the fetus is not developed enough to move very much until the end of the sixth month of pregnancy.

Incorrect. Pregnant women typically feel the movement of the fetus during the fourth month.

- d. No, it is very difficult for a pregnant woman to feel the fetus's movement until the fetus is viable, during the 8th month of pregnancy.

Answer: B

Difficulty: 1

Page: 68

Skill: A

Learning Objective: 2.11

Bloom's Taxonomy Level: Apply

38. Susan is talking to her friend, who is at the end of her second trimester. Lucila wants to be reassured that she is not crazy, but thinks her baby actually kicks, turns, and hiccups. Lucila even thinks that the baby becomes more active if she talks to it. If you were Susan, how would you respond to Lucila's observations?

- a. "Lucila, those activities are normal for the end of the second trimester, and fetuses can hear even in the womb."

Correct. These are all normal actions and responses for a pregnant woman to feel.

- b. "Lucila, I think you are going crazy. A fetus really doesn't kick that early in the pregnancy and it's crazy to think it can hear."

- c. "Lucila, all those things do happen, but not really until the end of the third trimester."

Incorrect. During the second trimester, the mother can feel movement from the fetus. The fetus kicks, turns, hiccups, sucks its thumb, breathes amniotic fluid, and responds to sounds, especially music and familiar voices.

- d. "Lucila, I think you need to go see your doctor because something is absolutely wrong."

Answer: A

Difficulty: 2

Page: 68

Skill: A

Learning Objective: 2.11

Bloom's Taxonomy Level: Apply

39. What is the name of the white slimy substance that covers the fetus's skin?

- a. lanugo
- b. vernix
- c. keratin
- d. ossicles

Answer: B

Difficulty: 2

Page: 68

Skill: F

Learning Objective: 2.11

Bloom's Taxonomy Level: Remember

40. A fellow worker was present at his son's birth. He was really upset because his son was born with a white substance all over his skin and no one told him what the problem was. You should tell him ____.
- a. that it was probably cancer
 - b. that his baby probably had something wrong with it; you have never heard of such a thing
- Incorrect. The white substance is called vernix and is normal.*
- c. that the white substance was vernix and many babies have that at birth; it protects their skin in utero
 - d. that that was a greasy like substance that is used to help the baby emerge from the birth canal; they will wash it off later

Answer: C

Difficulty: 2

Page: 68

Skill: A

Learning Objective: 2.11

Bloom's Taxonomy Level: Apply

% correct 82 a = 0 b = 0 c = 82 d = 12 r = .20

41. The purpose of lanugo is to ____.
- a. work as a lubricant during the birthing process
 - b. lubricate the lungs
 - c. guide neuro-migration during brain development
 - d. help the vernix stick to the fetus's skin, which protects against chapping

Answer: D

Difficulty: 2

Page: 68

Skill: F

Learning Objective: 2.11

Bloom's Taxonomy Level: Remember

42. What is the name of the downy hair that covers the fetus?
- a. lanugo
 - b. vernix
 - c. keratin
 - d. ossicles

Answer: A

Difficulty: 1

Page: 68

Skill: F

Learning Objective: 2.11

Bloom's Taxonomy Level: Remember

43. What is the term used to describe the fetus's likelihood of surviving outside of the uterus?
- a. survival index

- b. Apgar Score
- c. Braxton Hicks
- d. viability

Answer: D

Difficulty: 1

Page: 68

Skill: F

Learning Objective: 2.11

Bloom's Taxonomy Level: Remember

% correct 53 a = 24 b = 0 c = 18 d = 53 r = .35

44. _____ is the term for an infant's ability to survive outside the womb if born preterm/premature.
- a. Immaturity
 - b. Small for size
 - c. Viability
 - d. Survivability

Answer: C

Difficulty: 1

Page: 68

Skill: F

Learning Objective: 2.11

Bloom's Taxonomy Level: Remember

45. What is the likely outcome for a fetus whose mother lives in a developing country and is born before the end of the second trimester? The newborn will probably _____.
- a. not survive
Correct. Access to the necessary advanced medical care is scarce in developing countries, so the newborn's chances of survival are not strong.
 - b. be healthy
Incorrect. It is more likely that the newborn will not survive.
 - c. have an Apgar score of at least 7
 - d. have a breech birth

Answer: A

Difficulty: 1

Page: 68–69

Skill: C

Learning Objective: 2.11

Bloom's Taxonomy Level: Understand

46. The last major organ system to develop during fetal life is the _____.
- a. heart
Incorrect. The last major organs to develop are the lungs.
 - b. lungs
Correct. Even a baby born in the seventh or eighth month of pregnancy may need the help of a respirator to breathe.
 - c. intestines
 - d. skeletal muscles

Answer: B

Difficulty: 1

Page: 69

Skill: C

Learning Objective: 2.11

Bloom's Taxonomy Level: Understand

% correct 68 a = 8 b = 68 c = 7 d = 17 r = .27

47. Newborns weighing less than what weight are at risk for a wide range of developmental difficulties?

a. 5.5 pounds

Correct. Many of these developmental difficulties will be discussed in Chapter 3.

b. 7.0 pounds

Incorrect. Newborns weighing less than 5.5 pounds are at risk.

c. 8.5 pounds

d. 10 pounds

Answer: A

Difficulty: 1

Page: 69

Skill: C

Learning Objective: 2.11

Bloom's Taxonomy Level: Understand

48. As a result of evolutionary history, which of the following structures is the most underdeveloped at birth?

a. the lungs

b. the spinal cord

c. the brain

d. the digestive system

Answer: C

Difficulty: 2

Page: 69

Skill: F

Learning Objective: 2.11

Bloom's Taxonomy Level: Remember

49. Humans are born with immature brains that are incompletely developed. One result is that babies _____.

a. are less vulnerable to environmental difficulties

Incorrect. The environment has a greater effect and parental care is required for a longer period than with other animals.

b. learn to care for themselves very quickly

c. have a genetic resistance to infection

d. require parental care for a longer time than other animals

Correct. As we learned in Chapter 1, this is a result of evolutionary history.

Answer: D

Difficulty: 1

Page: 69

Skill: C

Learning Objective: 2.11

Bloom's Taxonomy Level: Understand

50. It has been discovered that the fetus responds to sound at the end of the sixth month. What sound does the fetus prefer at this time?

- a. Mozart's music

Incorrect. At the sixth month, the fetus is likely to respond to its mother's voice.

- b. rhythmic tapping

- c. its mother's voice

Correct. We know this is true because an increase in fetal heart rate is observed when a fetus hears its mother's voice.

- d. a cat's meow

Answer: C

Difficulty: 2

Page: 69

Skill: C

Learning Objective: 2.11

Bloom's Taxonomy Level: Understand

51. Your roommate's sister-in-law is pregnant and is trying to do all that she can to protect her fetus and to make sure that her fetus develops well. She does not like to have any loud music on and even does not talk very loudly for fear that her fetus will be harmed. What would you tell her?

- a. That her fetus will not be adversely affected and that studies have discovered that fetuses actually prefer their mothers' voices. So, she should talk as much as she likes.

Correct. A fetus's heart rate has been shown to increase when it hears its mother's voice.

- b. That she is correct; loud music is readily transmitted through the amniotic fluid and will cause damage to the fetus's cochlea.

- c. That she should play Mozart really loudly. Fetuses who listen to Mozart are more intelligent than those who do not listen to Mozart.

- d. Research has shown that fetuses love country music.

Incorrect. Fetuses have been shown to respond best to the sound of the mother's voice.

Answer: A

Difficulty: 3

Page: 69

Skill: A

Learning Objective: 2.11

Bloom's Taxonomy Level: Apply

52. DeCasper and Spence asked mothers to read *The Cat in the Hat* to their fetuses every day for the last six weeks of their pregnancies. After the birth, babies showed a preference for _____.

- a. hearing their mothers read any Dr. Seuss book

- b. their mother's voice

- c. rhythmic tapping

Incorrect. The babies showed a preference for The Cat in the Hat.

- d. hearing their mothers read *The Cat in the Hat*

Correct. The babies preferred this even over similar rhyming stories they had not heard before.

Answer: D

Difficulty: 1

Page: 69

Skill: C

Learning Objective: 2.11

Bloom's Taxonomy Level: Understand

53. What do fetuses do when their mothers are highly stressed?
- a. become very still
 - b. move more and have faster heart rates
 - c. suck their thumbs
 - d. hold their hands to their ears
- Incorrect. They generally move more and have faster heart rates when their mothers are stressed.*
- Correct. Fetuses respond in kind to their mothers' stress levels.*

Answer: B

Difficulty: 1

Page: 69

Skill: C

Learning Objective: 2.11

Bloom's Taxonomy Level: Understand

54. Your roommate is pregnant and she gets very angry and yells quite a bit over the smallest things. What is a good piece of advice that you could give her?
- a. It is OK if she gets upset, but she should not yell. It will harm the fetus's hearing.
 - b. Getting angry and yelling is good for the fetus since it will raise the fetus's heart rate.
 - c. She should probably get a different boyfriend. He is not going to be a very good father.
 - d. That she should try relaxation therapy. Whenever she gets really upset, her fetus gets very upset, too.
- Incorrect. She should try relaxation therapy.*
- Correct. Fetuses generally move more and have faster heart rates when their mothers are stressed.*

Answer: D

Difficulty: 1

Page: 69

Skill: A

Learning Objective: 2.11

Bloom's Taxonomy Level: Apply

55. The Beng people of the Ivory Coast have several practices and suggestions for pregnant women. Which of the following is an example of a suggestion from this culture?
- a. eat the meat from a bushbuck antelope
 - b. avoid drinking palm wine.
 - c. her husband must stop hunting while she is pregnant
 - d. she must not commit any immoral behavior

Answer: B

Difficulty: 1

Page: 70

Skill: F

Learning Objective: 2.12

Bloom's Taxonomy Level: Remember

56. Your sister, who is currently of healthy weight, is pregnant and she believes she should eat as much food as she can because she is "eating for two". You respond by _____.

- a. encouraging her to gain as much weight as possible as long as she's eating healthy foods
- b. cautioning her against this belief because gaining too much weight during pregnancy could be damaging to her health
- c. cautioning her against this belief and telling her she should only gain a maximum of 15 pounds during pregnancy
- d. encouraging her to eat as much as she wants because there are no risks associated with too much weight gain during pregnancy

Answer: B

Difficulty: 2

Page: 70

Skill: C

Learning Objective: 2.12

Bloom's Taxonomy Level: Understand

57. Risks of gaining too much weight during pregnancy include _____.
- a. structural abnormalities in the fetus
 - b. jaundice in the fetus
 - c. increased chance of stroke in the mother
 - d. hypertension, preeclampsia, and diabetes in the mother

Answer: D

Difficulty: 1

Page: 70

Skill: F

Learning Objective: 2.12

Bloom's Taxonomy Level: Remember

58. Recent scientific studies have shown that women should gain ____ pounds during pregnancy.
- a. 15–20
 - b. 25–35
 - c. 35–40
 - d. 45–50

Answer: B

Difficulty: 1

Page: 70

Skill: F

Learning Objective: 2.12

Bloom's Taxonomy Level: Remember

59. Women who gain less than 20 pounds are more likely to have babies who are _____.
- a. more likely to be obese during childhood
 - b. above average in intelligence
 - c. preterm and have low birth weight
 - d. more likely to have heart disease later in life

Answer: C

Difficulty: 1

Page: 70

Skill: F

Learning Objective: 2.12

Bloom's Taxonomy Level: Remember

60. Your friend is worried that she will gain quite a bit of weight since she is now pregnant. She is planning on dieting. What would be your advice?
- a. Tell her to definitely diet, this will insure that her children will not be obese.
 - b. Tell her that dieting increases intelligence in neonates.
- Incorrect. Dieting leads to low birth weight and prematurity.*
- c. Tell her that dieting could lead to her baby being born preterm and having a low birth weight.
 - d. That it would be a good idea to keep her weight gain under 20 pounds.

Answer: C

Difficulty: 1

Page: 70

Skill: A

Learning Objective: 2.12

Bloom's Taxonomy Level: Apply

61. What are possible side effects for the baby of a woman who gains less than 20 pounds during her pregnancy?
- a. Down syndrome and Fragile X
 - b. gestational diabetes
 - c. high blood pressure and gastrointestinal problems
- Incorrect. Scientific studies have shown that women should typically gain 25–35 pounds during pregnancy, and women who gain less than 20 pounds are at risk for having babies who are preterm and low birth weight.*
- d. the baby may be born preterm with a low birth weight
- Correct. Scientific studies have shown that women should typically gain 25–35 pounds during pregnancy, and women who gain less than 20 pounds are at risk for having babies who are preterm and low birth weight.*

Answer: D

Difficulty: 2

Page: 70

Skill: C

Learning Objective: 2.12

Bloom's Taxonomy Level: Understand

62. Based upon the accumulated scientific knowledge on prenatal care, which of the following is the one key conclusion regarding pregnant women?
- a. avoid drinking any alcohol
- Incorrect. Most professionals agree that regular prenatal care is the greatest thing a pregnant woman can do.*
- b. minimize as much stress as possible
 - c. receive regular evaluations from a health care professional
- Correct. The percentage of woman who receive regular prenatal care beginning early in pregnancy varies greatly based on ethnicity and SES.*
- d. cut all caffeine from her diet

Answer: C

Difficulty: 3

Page: 70

Skill: C

Learning Objective: 2.12

Bloom's Taxonomy Level: Understand

63. Shantel is talking to her grandmother about how she is continuing her moderate exercise program while she is pregnant. However, Grandma warns her not to exercise because she holds the outdated belief, once common in developed countries, that Shantel is ____.
- a. in a physical state similar to a disability or illness
Correct. Until a few decades ago, it was widely believed in developed countries that pregnant women were too fragile to walk or carry groceries.
 - b. too physically weak and could fall
 - c. going to harm the baby while exercising
 - d. going to stimulate a preterm birth
Incorrect. Until a few decades ago, it was widely believed in developed countries that pregnancy was a kind of disability or illness.

Answer: A

Difficulty: 2

Page: 71

Skill: A

Learning Objective: 2.12

Bloom's Taxonomy Level: Apply

64. According to the text, what enhances the health of the pregnant woman and her fetus?
- a. mild to moderate exercise
Correct. One benefit is that mild to moderate exercise increases a woman's ability to process oxygen for herself and her fetus.
 - b. drinking several cups of tea each day
 - c. eating herbs
 - d. conserving energy
Incorrect. Mild to moderate exercise enhances the health of the pregnant woman and her fetus.

Answer: A

Difficulty: 1

Page: 71

Skill: C

Learning Objective: 2.12

Bloom's Taxonomy Level: Understand

65. What is an example of an aerobic exercise?
- a. walking/jogging
Correct. These stimulate a woman's muscular and circulatory systems.
 - b. weightlifting
 - c. sprinting
Incorrect. Walking/jogging are examples of aerobic exercise.
 - d. jumping

Answer: A

Difficulty: 1

Page: 71

Skill: C

Learning Objective: 2.12

Bloom's Taxonomy Level: Understand

66. Why is aerobic exercise important to a pregnant woman? It helps to ____.

- a. lower muscle mass
Incorrect. It increases the woman's ability to process oxygen.
- b. increase fetal heart rate
- c. stop dangerous teratogens from reaching the fetus
- d. increase the woman's ability to process oxygen
Correct. This oxygen increase, in turn, benefits her fetus.

Answer: D

Difficulty: 1

Page: 71

Skill: C

Learning Objective: 2.12

Bloom's Taxonomy Level: Understand

67. Your best friend has just learned that she is pregnant. She is a healthy person and is planning on engaging in aerobic exercise during her pregnancy. What would be your advice to her? She should ____.
- a. be very careful in that this type of exercise during pregnancy could lower muscle mass
Incorrect. Aerobic exercise increases a pregnant woman's ability to process oxygen, a benefit for both her and the fetus.
 - b. not run too quickly because it could dangerously increase fetal heart rate
 - c. exercise regularly since it will stop dangerous teratogens from reaching the fetus
 - d. exercise regularly in that she will increase her ability to process oxygen
Correct. Moderate aerobic exercise increases a pregnant woman's ability to process oxygen, a benefit for both her and the fetus.

Answer: D

Difficulty: 1

Page: 71

Skill: A

Learning Objective: 2.12

Bloom's Taxonomy Level: Apply

68. According to the text, what type of exercise stimulates the circulatory and muscular systems of the woman's body and increases her ability to process oxygen?
- a. meditation
 - b. active stretching
 - c. weight training
Incorrect. Aerobic exercise stimulates the circulatory and muscular systems.
 - d. aerobic exercise
Correct. Moderate aerobic exercise provides benefit for both a pregnant woman and her fetus.

Answer: D

Difficulty: 1

Page: 71

Skill: C

Learning Objective: 2.12

Bloom's Taxonomy Level: Understand

69. What exercise strengthens the vaginal muscles and helps prepare the mother for the delivery of the fetus?
- a. bench presses

- b. squats
- c. Kegels
- d. abdominal crunches

Answer: C

Difficulty: 1

Page: 71

Skill: F

Learning Objective: 2.12

Bloom's Taxonomy Level: Remember

70. Which of the following exercises should be avoided during pregnancy?

- a. any contact sports

Correct. Contact sports are too traumatic for pregnant women.

- b. walking

- c. light jogging

Incorrect. Light jogging is recommended for pregnant women.

- d. swimming

Answer: A

Difficulty: 1

Page: 71

Skill: C

Learning Objective: 2.12

Bloom's Taxonomy Level: Understand

71. The guidelines for prenatal care focus mostly on three key areas: ____.

- a. rest, stress reduction, and the avoidance of fatty foods

- b. diet, exercise, and avoidance of teratogens

- c. exercise, mental state, and relaxation

- d. prenatal vitamins, exercise, and avoidance of caffeine

Answer: B

Difficulty: 2

Page: 71

Skill: F

Learning Objective: 2.12

Bloom's Taxonomy Level: Remember

72. Many traditional cultures do not have access to trained physicians but may rely on which of the following individuals during the prenatal period?

- a. nurse

- b. midwife

Correct. Midwives assist in prenatal care and the birth process.

- c. staff from the World Health Organization

Incorrect. Midwives are commonly used.

- d. paramedics

Answer: B

Difficulty: 2

Page: 72

Skill: C

Learning Objective: 2.12

Bloom's Taxonomy Level: Understand

73. Based upon the reading, a midwife might perform a(n) ____ if the fetus's feet are pointed towards the vaginal opening.

a. diversion
b. prenatal massage

Incorrect. If the fetus is turned in an unfavorable position, so that it would be likely to come out feet first rather than head first, the midwife will attempt an inversion to turn the fetus's head toward the vaginal opening.

c. inversion

Correct. If the fetus is turned in an unfavorable position, so that it would be likely to come out feet first rather than head first, the midwife will attempt an inversion to turn the fetus's head toward the vaginal opening.

d. amniocentesis

Answer: C

Difficulty: 2

Page: 72

Skill: C

Learning Objective: 2.12

Bloom's Taxonomy Level: Understand

74. A method of prenatal care that has been used by traditional cultures that is now being used by midwives, nurses, and physicians in developed countries is ____.

a. dancing
b. singing
c. daily naps

Incorrect. Prenatal massage has a long history in many cultures. In recent years, it has also begun to be used by midwives, nurses, and physicians in developed countries.

d. massage

Correct. Prenatal massage has a long history in many cultures. In recent years, it has also begun to be used by midwives, nurses, and physicians in developed countries.

Answer: D

Difficulty: 1

Page: 72

Skill: C

Learning Objective: 2.12

Bloom's Taxonomy Level: Understand

% correct 97 a = 1 b = 2 c = 1 d = 97 r = .26

75. In recent years, prenatal massage in developed countries has ____.

a. increased
b. decreased
c. remained the same
d. not been statistically tracked

Answer: A

Difficulty: 1

Page: 72

Skill: F

Learning Objective: 2.12

Bloom's Taxonomy Level: Remember

76. ____ is/are described as behaviors, environments, and bodily conditions that could be harmful to a fetus.

- a. Lanugo
- b. Teratogens
- c. Vernix
- d. Trophoblasts

Answer: B

Difficulty: 1

Page: 72

Skill: F

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

77. Which period of prenatal development is considered the *critical period* and also a time in which teratogens can have a profound effect that endure into adulthood?
- a. conception
 - b. germinal period
- Incorrect. The placenta is not fully formed during the embryonic period.*
- c. embryonic period
 - d. fetal period

Answer: C

Difficulty: 1

Page: 72–73

Skill: C

Learning Objective: 2.13

Bloom's Taxonomy Level: Understand

% correct 53 a = 0 b = 6 c = 53 d = 41 r = .52

78. What term refers to malnutrition, disease, alcohol, tobacco, and other drugs that are harmful to the fetus?
- a. teratogens
 - b. pathogens
 - c. carcinogens
 - d. fetogens

Answer: A

Difficulty: 1

Page: 72

Skill: F

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

% correct 89 a = 89 b = 8 c = 2 d = 1 r = .38

79. Which of the following are examples of teratogens?
- a. calcium, iron, and iodine
 - b. prenatal vitamins and micronutrients
 - c. meats, grains, and legumes
 - d. alcohol, tobacco, and other drugs

Answer: D

Difficulty: 2

Page: 72

Skill: F

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

80. Which of the following are examples of teratogens?
- a. calcium, iron, and iodine
 - b. prenatal vitamins and micronutrients
 - c. infectious diseases and malnutrition
 - d. folic acid and iodine

Answer: C

Difficulty: 2

Page: 72

Skill: F

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

81. What describes the profound and enduring effect on later development that teratogens can have during the embryonic period?
- a. critical period
Correct. The embryonic period lasts from the third to the eighth week after conception.
 - b. sensitive period
Incorrect. The profound and enduring effect on later development that teratogens can have during the embryonic period describes a critical period.
 - c. embryonic period
 - d. fetal period

Answer: A

Difficulty: 2

Page: 72

Skill: C

Learning Objective: 2.13

Bloom's Taxonomy Level: Understand

82. What are the major teratogens during the fetal period?
- a. lack of maternal sleep and lack of exercise
 - b. excessive maternal weight gain and maternal age
 - c. malnutrition and tobacco
Correct. Malnutrition and tobacco use are the major teratogens during the fetal period.
 - d. sugar and starch
Incorrect. The major teratogens during the fetal period are malnutrition and tobacco.

Answer: C

Difficulty: 2

Page: 72–73

Skill: C

Learning Objective: 2.13

Bloom's Taxonomy Level: Understand

83. According to the text, what is the most common teratogen worldwide?
- a. malnutrition
 - b. tobacco
 - c. alcohol
 - d. infectious disease

Answer: A

Difficulty: 1

Page: 73

Skill: F

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

84. From a global perspective, which of the following is the most common teratogen to affect pregnancies?
- a. lead
 - b. malnutrition
 - c. alcohol
 - d. rubella

Answer: B

Difficulty: 2

Page: 73

Skill: F

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

85. Prenatal health depends on proper prenatal nutrition. Because approximately 50% of the world's population is rural, pregnant women ____.
- a. have access to fruits and vegetables year round
 - b. are malnourished year round
- Incorrect. Pregnant women who live in rural areas may only eat well during the summer and fall when the crops have been harvested.*
- c. cannot afford the required vitamins recommended by their physicians
 - d. may only eat well only during the summer and fall
- Correct. The diet of people in rural areas can vary dramatically depending on the season.*

Answer: D

Difficulty: 2

Page: 73

Skill: C

Learning Objective: 2.13

Bloom's Taxonomy Level: Understand

86. Iron-rich foods such as beef, duck, potatoes, spinach, and dried fruits are important in what way for the pregnant mother and fetus? These foods help to ____.
- a. build the blood supply of the mother and fetus
- Correct. Iron deficiencies place women at risk of delivering preterm or low-birth-weight babies.*
- b. increase the muscle mass of the fetus
 - c. assist in visual development of the fetus
- Incorrect. Iron-rich foods help to build the blood supply of the mother and fetus.*
- d. provide nutrients for proper brain development

Answer: A

Difficulty: 1

Page: 74

Skill: C

Learning Objective: 2.13

Bloom's Taxonomy Level: Understand

87. Low iodine intake during pregnancy increases the risks of miscarriage, stillbirth, and abnormalities in fetal brain development. As a result, what has been done since the 1920s in developed countries?
- a. women receive iodine injections
 - b. salt has been iodized
 - c. babies are given iodine baths after birth
 - d. fetuses are examined with ultrasound
- Incorrect. Salt has been iodized.*
Correct. Iodine deficiencies are still a risk in developing countries.

Answer: B

Difficulty: 1

Page: 74

Skill: C

Learning Objective: 2.13

Bloom's Taxonomy Level: Understand

88. As compared with developing nations, the rates of miscarriage, stillbirth, and abnormalities in fetal brain development have been lowered because iodine has been added to ____.
- a. salt
 - b. school lunches
 - c. bread
 - d. the water supply

Answer: A

Difficulty: 2

Page: 74

Skill: F

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

89. What is another name for the German measles?
- a. cephalopelvic disproportion
 - b. rubella
 - c. anencephaly
 - d. neurofibromatosis
- Correct. The embryonic period is a critical period for exposure to rubella.*
Incorrect. German measles is also known as rubella.

Answer: B

Difficulty: 2

Page: 74

Skill: C

Learning Objective: 2.13

Bloom's Taxonomy Level: Understand

90. If a pregnant woman contracts rubella during the embryonic period of pregnancy, what are the likely outcomes for the baby?
- a. blindness, deafness, intellectual disabilities and abnormalities of the heart, genitals and digestive system
 - b. neural tube defect
 - c. mental retardation
 - d. lack of iron in the blood supply

Answer: A

Difficulty: 2

Page: 74

Skill: F

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

91. Infants born with the effects of rubella (German measles) within the United States have greatly decreased since the 1960s because ____.
- a. vaccinations for infectious diseases have increased
 - b. funding for Medicaid and Medicare have increased
 - c. fluoride has been added to the water
 - d. folic acid has been added to grain products

Answer: A

Difficulty: 3

Page: 74

Skill: F

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

92. What sexually transmitted infection is caused by the human immunodeficiency virus?
- a. syphilis
 - b. herpes
 - c. gonorrhea
 - d. AIDS

Answer: D

Difficulty: 1

Page: 74

Skill: F

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

93. What sexually transmitted infection can be transmitted to the fetus during prenatal development and to the neonate during birth and later through breast milk?
- a. syphilis
 - b. herpes
- Incorrect. AIDS can be transmitted from mother to child during prenatal development through the blood, during birth, or through breast milk.*
- c. gonorrhea
 - d. AIDS
- Correct. HIV/AIDS damages brain development prenatally and increases the risk that an infant will not live to adulthood.*

Answer: D

Difficulty: 2

Page: 74

Skill: C

Learning Objective: 2.13

Bloom's Taxonomy Level: Understand

94. HIV/AIDS can be transmitted from the mother to the child ____.
- a. during prenatal development, birth, or through breast milk

Correct. HIV/AIDS damages brain development prenatally and increases the risk that an infant will not live to adulthood.

- b. through casual skin-to-skin contact such as hugs and kisses

Incorrect. HIV/AIDS can be transmitted from mother to child during prenatal development through the blood, during birth, or through breast milk.

- c. via bacterial infections during times of illness while pregnant
- d. through HIV bacteria being transmitted via contaminated environmental objects

Answer: A

Difficulty: 3

Page: 74

Skill: C

Learning Objective: 2.13

Bloom's Taxonomy Level: Understand

% correct 94 a = 94 b = 0 c = 6 d = 0 r = .18

95. Where do 95% of all HIV infections take place?

- a. North America
- b. Asia
- c. Africa
- d. Europe

Answer: C

Difficulty: 1

Page: 75

Skill: F

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

96. What teratogen causes the most widespread damage to prenatal development in developed countries?

- a. tobacco

Incorrect. Alcohol causes more damage to prenatal development in developed countries.

- b. infectious diseases
- c. cocaine
- d. alcohol

Correct. Alcohol causes more damage to prenatal development in developed countries.

Answer: D

Difficulty: 1

Page: 75

Skill: C

Learning Objective: 2.13

Bloom's Taxonomy Level: Understand

97. According to the text, which of the following is a safe amount of alcohol an individual can consume during pregnancy?

- a. 1 glass of wine per week
- b. 1 glass of wine per week only after the second trimester
- c. 1 glass of wine per week only after the third trimester

Incorrect. A pregnant woman should not drink at all during her pregnancy.

- d. none at all

Correct. Research has shown that the only safe level of alcohol during pregnancy is none at all.

Answer: D

Difficulty: 1

Page: 75

Skill: C

Learning Objective: 2.13

Bloom's Taxonomy Level: Understand

98. What condition might occur in the fetus, and later in the child, if the pregnant mother consumes alcohol during her pregnancy?
- a. fibromyalgia
 - b. alcoholism
- Incorrect. Fetal alcohol spectrum disorder can result if a pregnant woman drinks alcohol during her pregnancy.*
- c. neuromuscular disorder
 - d. fetal alcohol spectrum disorder
- Correct. This disorder can result in facial deformities, heart problems, and cognitive problems.*

Answer: D

Difficulty: 1

Page: 75

Skill: C

Learning Objective: 2.13

Bloom's Taxonomy Level: Understand

99. An infant born with facial deformities, heart problems, misshapen limbs, and a variety of cognitive problems, such as mental retardation, has characteristics of which of the following?
- a. fetal alcohol spectrum disorder
- Correct. These conditions are characteristics of fetal alcohol spectrum disorder.*
- b. autism
 - c. Prader-Willi syndrome
 - d. rubella
- Incorrect. These conditions are characteristics of fetal alcohol spectrum disorder.*

Answer: A

Difficulty: 2

Page: 75

Skill: C

Learning Objective: 2.13

Bloom's Taxonomy Level: Understand

100. What is the leading cause of low birth weight in developed countries?
- a. smoking
 - b. cocaine use
 - c. drinking alcohol
 - d. mega-dosing of vitamins

Answer: A

Difficulty: 1

Page: 75

Skill: F

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

101. What maternal behavior during pregnancy was related to behavior problems in adolescence?

- a. mega-dosing of vitamins
- b. drinking alcohol
- c. cocaine use
- d. smoking

Answer: D

Difficulty: 1

Page: 75

Skill: F

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

102. You notice that your pregnant friend just lit a cigarette and you ask her, "What the heck are you doing?" Your friend replies that her doctor said that it was okay to smoke during pregnancy. Which of the following statements should be your reply?

- a. "There are known side effects to smoking and no responsible physician would tell you that you can smoke if you are pregnant."

Correct. Maternal smoking is the leading cause of low birth weight in developed countries.

- b. "Okay, research has shown that smoking is harmless."
- c. "Most physicians would recommend that you wait until the third trimester to begin smoking again."

Incorrect. Pregnant women should not smoke at any time during their pregnancy.

- d. "That makes sense; smoking is harmful if it is secondhand smoke."

Answer: A

Difficulty: 2

Page: 75

Skill: A

Learning Objective: 2.13

Bloom's Taxonomy Level: Apply

103. What paternal behavior during pregnancy leads to higher risks of low birth weight and childhood cancer?

- a. mega-dosing of vitamins
- b. drinking alcohol
- c. smoking
- d. cocaine use

Answer: C

Difficulty: 1

Page: 75

Skill: F

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

104. The use of marijuana during pregnancy can affect the development of the _____ and retard the growth of the fetus.

- a. central nervous system
- b. peripheral nervous system
- c. motor cortex

d sensory cortex

Answer: A

Difficulty: 1

Page: 75

Skill: F

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

105. Your friend uses marijuana to treat back pain because she believes it is a natural remedy. She wonders if it is ok to continue using marijuana once she gets pregnant. You respond by telling her _____.
- a. it is ok to continue using marijuana since it is natural
 - b. it is ok to continue using marijuana because there are no known harmful effects during pregnancy
 - c. she should stop using marijuana as regularly as she does and cut back on her uses during pregnancy
 - d. she should stop using marijuana because it could affect the development of the central nervous system and slow the growth of the fetus

Answer: D

Difficulty: 1

Page: 75

Skill: A

Learning Objective: 2.13

Bloom's Taxonomy Level: Apply

106. Some prescription and over-the-counter drugs may be harmful during pregnancy whereas others may be safe. In determining whether you should continue medications while pregnant it is recommended that you _____.
- a. make sure to continue with the same dosage of the medications
 - b. get your doctor's opinion concerning the medications
 - c. stop all medications right away
 - d. increase the dosage since the placenta will filter out toxins before reaching the fetus

Answer: C

Difficulty: 1

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Skill: C

Learning Objective: 2.13

Bloom's Taxonomy Level: Understand

Short Answer Questions

107. In what prenatal period are the lanugo and vernix formed? Explain what they are.

Answer: Both are formed during the fetal period. The vernix is the waxy coating that protects the skin while floating in the amniotic fluid; the lanugo is the fine hair that helps the vernix to stick to the skin.

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Learning Objective: 2.11

Bloom's Taxonomy Level: Remember

108. Give an example of pregnancy advice that reflects cultural wisdom in traditional cultures. What is a plausible explanation that this advice is passed down from generation to generation?

Answer: Among the Beng people of West Africa, women are warned against drinking palm wine during pregnancy and also to avoid eating the meat of the bushbuck antelope (or the baby may be born with stripes). These warnings reflect the fact that people in these cultures know that many things can go wrong during pregnancy and these tips may offer a sense of control.

Page: 70

Learning Objective: 2.12

Bloom's Taxonomy Level: Apply

109. Who usually performs prenatal massages in traditional cultures? Are there benefits to prenatal massage besides making the mother feel good and more relaxed? Explain.

Answer: It is usually performed by a midwife. Benefits to mother include less back pain, less swelling of joints, better sleep, and a better chance that the fetus will come out head first. Neonates score better on physical and social measures.

Page: 72

Learning Objective: 2.12

Bloom's Taxonomy Level: Understand

110. Recall the World Health Organization's guidelines for prenatal care. Name one nutrient that is of critical importance during pregnancy, where women would get it, and what the consequences would be of not having it.

Answer: Iodine. In developed countries, iodine is added to salt. Without it, there is increased risk of miscarriage, stillbirth, or abnormal brain development. Iodine is more readily available in developed countries.

Page: 73–74

Learning Objective: 2.13

Bloom's Taxonomy Level: Understand

111. How much weight should a woman gain during pregnancy (provide an approximate range)? Provide one diet or exercise recommendation.

Answer: Women should gain between 25–35 pounds. They should drink more fluids and they should eat plenty of fruits and vegetables, especially iron-rich foods, such as leafy greens.

Page: 70

Learning Objective: 2.12

Bloom's Taxonomy Level: Understand

112. Which prenatal period is considered a critical period when teratogens are most likely to have severe and enduring effects? Why?

Answer: The embryonic period, because this is when all the major organs and systems are forming.

Page: 72–73

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

113. What are two consequences of a folic acid deficiency?

Answer: Anencephaly: part of the brain is missing or deformed. Spina bifida: the spine is deformed and does not close.

Page: 74

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

114. What are the long-term effects of FASD (in addition to characteristic physiological features)?

Answer: In childhood, there are cognitive deficits that put them behind academically and socially. In addition, in adolescence, they are at risk for delinquency, substance abuse, and depression.

Page: 75

Learning Objective: 2.13

Bloom's Taxonomy Level: Remember

Essay Questions

115. Choose one prenatal period and provide a detailed overview of what happens. Include when it occurs.

Answer: The germinal period (0–2 weeks after conception) includes the formation of the zygote, rapid cell division forming a 100-celled blastocyst, and implantation. The outer layer of the blastocyst, the trophoblast, develops into the structures that will house and nourish disk that eventually forms the embryo.

Page: 67–69

Learning Objective: 2.9–2.11

Bloom's Taxonomy Level: Understand

116. What does viability mean, and how likely is a fetus to be viable at 22 weeks? At 26 weeks? Why would this vary depending upon whether a person lives in a developed or a developing country? What is the main obstacle to viability even by the beginning of the third trimester?

Answer: This is when a fetus would be able to survive outside the womb. Survival is unlikely before 22 weeks, even with medical intervention. Even if babies do survive when they are premature, they are at greater risk for birth defects and disabilities compared to full-term babies. In developing countries, there is less access to medical supplies and facilities, so the age of viability is later than in developed countries (some time in the third trimester, depending on the country and its technology). The reason babies are so vulnerable even in the third trimester is their immature lungs.

Page: 68–69

Learning Objective: 2.11

Bloom's Taxonomy Level: Apply

117. You are out to dinner with your friend, who is in her second trimester of pregnancy. You order a beer and she proceeds to order a glass of wine. When you raise a concern about alcohol being dangerous for the developing fetus, she replies, "My doctor told me it was okay to have a glass of wine once in a while." What is your evaluation of this advice?

Answer: No safe amount of alcohol has been determined during pregnancy. Even a few drinks can put a developing fetus at risk for lower height, weight, and head size, and heavy drinking causes FASD. There is a dose-response relation between alcohol and negative effects.

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Learning Objective: 2.13

Bloom's Taxonomy Level: Apply

TOTAL ASSESSMENT GUIDE

Chapter 2-Section 3 Pregnancy Problems

Learning Objective		Remember	Understand	Apply
Learning Objective 2.14	Multiple Choice	1, 2, 3, 5, 8, 10, 11, 14, 15, 16	6, 7, 9, 12, 13, 17	4
	Short Answer	38		
	Essay		40	
Learning Objective 2.15	Multiple Choice	20, 21, 22, 23, 24, 25, 26	18, 19, 27	
	Short Answer			
	Essay		40	
Learning Objective 2.16	Multiple Choice	30, 32, 33, 34	28, 29, 31	51
	Short Answer		39	
	Essay		40	
Learning Objective 2.17	Multiple Choice		35	36, 37
	Short Answer			
	Essay		40	

Section 3 Pregnancy Problems

Test Item File

Multiple Choice Questions

1. During meiosis, at times chromosomes sometimes fail to divide properly, and as a result, the person may have 45 or 47 chromosomes. Which of the following best describes this phenomenon?
- chromosomal disorders
 - genetic misprinting
 - mitosis error
 - gene displacement

Answer: A

Difficulty: 1

Page: 77

Skill: F

Learning Objective: 2.14

Bloom's Taxonomy Level: Remember

2. It is estimated that half of all conceptions have too many or too few chromosomes. According to the text, what happens to most of the zygotes that are formed in these situations?
- They are spontaneously aborted.
 - They result in neonates with birth defects.
 - They result in twins.
 - They have no problems.

Answer: A

Difficulty: 1

Page: 77

Skill: F

Learning Objective: 2.14

Bloom's Taxonomy Level: Remember

% correct 41 a = 41 b = 53 c = 0 d = 6 r = .43

3. Approximately how many neonates have a chromosomal disorder?
- 1 in 10
 - 1 in 200
 - 1 in 500
 - 1 in 1,000

Answer: B

Difficulty: 1

Page: 77

Skill: F

Learning Objective: 2.14

Bloom's Taxonomy Level: Remember

4. Your friend just found out that she is pregnant after trying for six months. But she is paranoid that she is going to have a baby with a chromosomal disorder. You try to

reassure her by telling her that the rate of babies born with chromosomal disorders is

- _____.
 a. 1 in 10
 b. 1 in 200

Correct. There are two main types of chromosomal disorders: ones that involve sex chromosomes and ones that take place on the twenty-first pair of chromosomes.

- c. 1 in 500
Incorrect. Approximately 1 in 200 neonates have a chromosomal disorder.
 d. 1 in 1,000

Answer: B

Difficulty: 1

Page: 77

Skill: A

Learning Objective: 2.14

Bloom's Taxonomy Level: Apply

5. Approximately how many neonates have some type of sex chromosome disorder?
 a. 1 in 10
 b. 1 in 200
 c. 1 in 500
 d. 1 in 1,000

Answer: C

Difficulty: 1

Page: 77

Skill: F

Learning Objective: 2.14

Bloom's Taxonomy Level: Remember

6. What are two common consequences of sex chromosome disorders?
 a. shortened stature and the likelihood to develop nonorganic failure to thrive
 b. an increased likelihood to have a pregnancy that is preterm and an infant with low birth weight
 c. an infant that is more likely to have a difficult temperament and an insecure attachment
Incorrect. Cognitive deficits tend to be a side effect of various sex-linked disorders.
 d. cognitive deficits and abnormal development of the reproductive system at puberty

Correct. Mental retardation, learning disabilities, and speech impairments are all common.

Answer: D

Difficulty: 2

Page: 77

Skill: C

Learning Objective: 2.14

Bloom's Taxonomy Level: Understand

% correct 94 a = 0 b = 6 c = 0 d = 94 r = .70

7. One of the consequences of having a sex chromosomal disorder is that it might disrupt development of the reproductive system at puberty. What can be done about the difficulty at puberty?
 a. role playing therapy

Incorrect. The type of treatment would be hormone replacement therapy.

- b. hormone replacement treatment

Correct. This can often effectively correct the problems caused by a sex chromosomal disorder.

- c. group therapy
- d. strenuous exercise

Answer: B

Difficulty: 2

Page: 77

Skill: C

Learning Objective: 2.14

Bloom's Taxonomy Level: Understand

8. An individual with Down syndrome has how many chromosomes?

- a. 45
- b. 46
- c. 47
- d. 48

Answer: C

Difficulty: 1

Page: 78

Skill: F

Learning Objective: 2.14

Bloom's Taxonomy Level: Remember

9. Down syndrome is also known as trisomy-21 because individuals with Down syndrome _____.

- a. have three distinct facial features by the 21st week of pregnancy
- b. show three distinct temperament patterns by the 21st week of infancy
- c. have a third chromosome on the 21st pair

Correct. Individuals with Down syndrome have an extra chromosome on the 21st pair.

- d. have 21 genes on the 3rd pair of chromosomes

Incorrect. Individuals with Down syndrome have an extra chromosome on the 21st pair.

Answer: C

Difficulty: 3

Page: 78

Skill: C

Learning Objective: 2.14

Bloom's Taxonomy Level: Understand

10. What is another name for trisomy-21?

- a. non-sex-linked-21
- b. intellectual disability
- c. Edward's syndrome
- d. Down syndrome

Answer: D

Difficulty: 1

Page: 78

Skill: F

Learning Objective: 2.14

Bloom's Taxonomy Level: Remember

11. What disorder includes the following characteristics: short, stocky build; flat face; a large tongue; extra fold of skin on the eyelids; and possible cognitive deficits, hearing impairments, and heart defects?
- a. non-sex-linked-21
 - b. Down syndrome
 - c. Edward's syndrome
 - d. intellectual disability

Answer: B

Difficulty: 2

Page: 78

Skill: F

Learning Objective: 2.14

Bloom's Taxonomy Level: Remember

12. What helps children with trisomy-21 develop more favorably?

- a. hormone replacement therapy
- b. weekly motor treatments

Incorrect. Children with trisomy-21 need supportive and encouraging parents.

- c. a heart transplant
- d. supportive and encouraging parents

Correct. Intervention programs in infancy and childhood have also been shown to have positive effects.

Answer: D

Difficulty: 2

Page: 78

Skill: C

Learning Objective: 2.14

Bloom's Taxonomy Level: Understand

13. Adult individuals with trisomy-21 are _____.

- a. often able to hold a job that is highly structured with simple tasks

Correct. With adequate social support, an adult with Down syndrome can often successfully hold a job.

- b. most likely institutionalized

Incorrect. Adults with trisomy-21 can hold jobs that are highly structured with simple tasks.

- c. not likely to make it to age 30
- d. as likely as individuals who do not have trisomy-21 to enter college

Answer: A

Difficulty: 2

Page: 78

Skill: C

Learning Objective: 2.14

Bloom's Taxonomy Level: Understand

14. Individuals who have what chromosomal disorder are more likely to develop leukemia, cancer, Alzheimer's disease, or heart disease at earlier ages than usual (in their thirties and forties)?

- a. non-sex-linked-21
- b. Down syndrome
- c. Edward's syndrome

- d. intellectual disability

Answer: B

Difficulty: 2

Page: 78

Skill: F

Learning Objective: 2.14

Bloom's Taxonomy Level: Remember

15. Children born with chromosomal problems are almost always born to parents with ____.
- a. the very same chromosomal problem
 - b. similar genetic disorders
 - c. above average intelligence
 - d. no genetic or chromosomal problems

Answer: D

Difficulty: 2

Page: 78

Skill: F

Learning Objective: 2.14

Bloom's Taxonomy Level: Remember

16. Which of the following increases the risk of having a child with Down syndrome?
- a. smoking while pregnant
 - b. alcohol consumption
 - c. maternal age
 - d. paternal stress

Answer: C

Difficulty: 2

Page: 77

Skill: F

Learning Objective: 2.14

Bloom's Taxonomy Level: Remember

% correct 76 a = 0 b = 24 c = 76 d = 0 r = .49

17. How old are the ova of a 42 year-old woman trying to conceive?

- a. 2 weeks
- b. 2 months

Incorrect. A 42-year-old woman's ova are 42 years old.

- c. 2 years
- d. 42 years

Correct. As we learned earlier in the chapter, a female produces all the ova she will ever have while she is still in the womb.

Answer: D

Difficulty: 2

Page: 78

Skill: C

Learning Objective: 2.14

Bloom's Taxonomy Level: Understand

18. Which of the following is an example of an incomplete dominant inheritance?

- a. Down syndrome

Incorrect. Down syndrome is a genetic-linked disorder.

- b. Fragile X
- c. sickle-cell anemia

Correct. Incomplete dominance occurs when the phenotype is influenced primarily, but not exclusively, by the dominant gene. One example of incomplete dominance involves the sickle-cell trait that is common among black Africans and their descendants, such as African Americans.

- d. HIV

Answer: C

Difficulty: 2

Page: 78

Skill: C

Learning Objective: 2.15

Bloom's Taxonomy Level: Understand

19. Who is most likely to have sickle-cell anemia?

- a. European and European Americans
- b. Hispanics and Hispanic Americans
- c. Asians and Asian Americans

Incorrect. Africans and African Americans are most likely to have sickle-cell anemia.

- d. Africans and African Americans

Correct. It also occurs more rarely in people whose ancestors came from India or the Mediterranean.

Answer: D

Difficulty: 1

Page: 78

Skill: C

Learning Objective: 2.15

Bloom's Taxonomy Level: Understand

20. What recessive disorder results in non-normal shaped blood cells that clog up blood vessels and cause pain, increased susceptibility to disease, and early death?

- a. Tay-Sachs
- b. trisomy-21
- c. sickle-cell anemia
- d. malaria

Answer: C

Difficulty: 1

Page: 78

Skill: F

Learning Objective: 2.15

Bloom's Taxonomy Level: Remember

21. Sickle-cell anemia is an evolutionary defense against what disease?

- a. sickle-cell trait
- b. malaria
- c. smallpox
- d. Nile fever

Answer: B

Difficulty: 1

Page: 78

Skill: F

Learning Objective: 2.15

Bloom's Taxonomy Level: Remember

% correct 88 a = 6 b = 88 c = 0 d = 6 r = .57

22. What is the most common inherited intellectual disability worldwide?
- a. phenylketonuria (PKU)
 - b. fragile X syndrome
 - c. Down syndrome
 - d. sickle-cell anemia

Answer: B

Difficulty: 1

Page: 79

Skill: F

Learning Objective: 2.15

Bloom's Taxonomy Level: Remember

23. Fragile X syndrome is the most common genetic disorder associated with _____.
- a. sickle-cell anemia
 - b. Down syndrome
 - c. autism spectrum disorder
 - d. phenylketonuria (PKU)

Answer: C

Difficulty: 1

Page: 80

Skill: F

Learning Objective: 2.15

Bloom's Taxonomy Level: Remember

24. Fragile X syndrome occurs in _____.
- a. females only
 - b. males only
 - c. both males and females
 - d. first born children only

Answer: C

Difficulty: 1

Page: 80

Skill: F

Learning Objective: 2.15

Bloom's Taxonomy Level: Remember

25. For individuals with fragile X syndrome, _____ tend to exhibit more apparent symptoms.
- a. more often females
 - b. more often males
 - c. males and females equally
 - d. first born children

Answer: B

Difficulty: 1

Page: 80

Skill: F

Learning Objective: 2.15

Bloom's Taxonomy Level: Remember

26. The reason why individuals develop phenylketonuria (PKU) is because _____.
a. their bodies cannot process phenylalanine (a certain amino acid) properly
b. their bodies process phenylalanine (a certain amino acid) too quickly
c. their bodies do not produce enough phenylalanine (a certain amino acid)
d. their bodies overproduce phenylalanine (a certain amino acid)

Answer: A

Difficulty: 1

Page: 80

Skill: F

Learning Objective: 2.15

Bloom's Taxonomy Level: Remember

27. Avoiding _____ is a common treatment for phenylketonuria (PKU).
a. carbohydrates
b. too much exercise
c. food and drinks with too much sugar
d. food and drinks containing high amounts of protein

Answer: D

Difficulty: 1

Page: 80

Skill: C

Learning Objective: 2.15

Bloom's Taxonomy Level: Understand

28. Which of the following are three techniques used to monitor pregnancy?
a. fetal heart rate, blood pressure, and CT scans
b. ultrasounds, amniocentesis, and chorionic villus sampling
Correct. All three of these methods are commonly available in developed countries.
c. genetic counseling, amniocentesis, and epidurals
Incorrect. Genetic counseling is not used to monitor pregnancy.
d. fMRI, CT, and PET scans

Answer: B

Difficulty: 2

Page: 80

Skill: C

Learning Objective: 2.16

Bloom's Taxonomy Level: Understand

29. What prenatal technique uses high-frequency waves to examine the characteristics of the fetus in-utero?
a. amniocentesis
Incorrect. Ultrasound uses high-frequency sound waves to examine the fetus in-utero.
b. chorionic villus sampling
c. alphafetal protein
d. ultrasound
Correct. Today, ultrasound is used for most pregnancies in developed countries.

Answer: D

Difficulty: 1

Page: 80

Skill: C

Learning Objective: 2.16

Bloom's Taxonomy Level: Understand

30. _____ uses high-frequency sound waves that are directed toward the uterus, and as they bounce off the fetus, they are converted by a computer to an image that can be viewed on a screen.
- a. Genetic counseling
 - b. Ultrasound
 - c. Chorionic villus sampling
 - d. Amniocentesis

Answer: B

Difficulty: 1

Page: 80

Skill: F

Learning Objective: 2.16

Bloom's Taxonomy Level: Remember

31. Which of the following is the cheapest, easiest, and safest way for physicians to monitor fetal development?
- a. genetic counseling
- Incorrect. Ultrasounds that can be used during routine appointments are relatively inexpensive.*
- b. amniocentesis
 - c. ultrasound
- Correct. Today ultrasound is used for most pregnancies in developed countries.*
- d. chorionic villus sampling

Answer: C

Difficulty: 1

Page: 80

Skill: C

Learning Objective: 2.16

Bloom's Taxonomy Level: Understand

32. What prenatal technique uses a long, hollow needle to extract amniotic fluid to examine the fetus's genotype?
- a. amniocentesis
 - b. chorionic villus sampling
 - c. alphafetal protein
 - d. ultrasound

Answer: A

Difficulty: 1

Page: 80

Skill: F

Learning Objective: 2.16

Bloom's Taxonomy Level: Remember

33. What prenatal technique can be used to examine the status of the fetus by taking samples of the cells that are beginning to form the umbilical cord?
- a. amniocentesis
 - b. chorionic villus sampling
 - c. alphafetal protein

- d. ultrasound

Answer: B

Difficulty: 1

Page: 81

Skill: F

Learning Objective: 2.16

Bloom's Taxonomy Level: Remember

34. Which of the following techniques is used sparingly because there is a slight but genuine risk of miscarriage or damage to the fetus; however, it has a 99% accuracy in diagnosing genetic problems?
- a. CT scan
 - b. ultrasound
 - c. amniocentesis
 - d. chorionic villus sampling

Answer: D

Difficulty: 2

Page: 80–81

Skill: F

Learning Objective: 2.16

Bloom's Taxonomy Level: Remember

35. Why would some couples seek genetic counseling before attempting a pregnancy?
- a. They believe that they might be carriers for a genetic disorder.
Correct. Genetic counseling involves analyzing the family history and genotype of prospective parents.
 - b. They live in a high-risk area.
 - c. They want to have a high-IQ baby.
 - d. They want a particular characteristic in their offspring.
Incorrect. Couples who believe that they might be carriers for genetic disorders might consider genetic counseling.

Answer: A

Difficulty: 1

Page: 81

Skill: C

Learning Objective: 2.17

Bloom's Taxonomy Level: Understand

36. Latasha and Brett are having their first child and are concerned that their child may have Down syndrome because Latasha is over 40 years old. Which of the following would most likely be used to help Latasha and Brett through this process?
- a. an amniocentesis and PET scan
 - b. an ultrasound and genetic counseling
Correct. Those who are at risk for Down syndrome would use an ultrasound because it the safest approach.
 - c. an amniocentesis and ultrasound
 - d. a chorionic villus sampling and fMRI
Incorrect. Those who are at risk for Down syndrome would use an ultrasound because it the safest approach.

Answer: B

Difficulty: 3

Page: 81

Skill: A

Learning Objective: 2.17

Bloom's Taxonomy Level: Apply

37. Genetic counseling would be appropriate for which of the following couples?

- a. JJ and Jennifer, who are in their early 30s and have just completed an unsuccessful round of artificial insemination

Incorrect. People with risks that merit genetic counseling include those who have an inherited genetic condition or a close relative who has one, couples with a history of miscarriages or infertility, and older couples.

- b. Stephen and Kerry, who are in their early 20s and have been trying to become pregnant but have been unsuccessful for the last two months

- c. Merriam and Samir, who are in their early 40s and have a history of miscarriages and infertility

Correct. People with risks that merit genetic counseling include those who have an inherited genetic condition or a close relative who has one, couples with a history of miscarriages or infertility, and older couples.

- d. Ngyuen and Pham, who are in their early 30s and both have a history of diabetes

Answer: C

Difficulty: 2

Page: 81

Skill: A

Learning Objective: 2.17

Bloom's Taxonomy Level: Apply

Short Answer Questions

38. In addition to characteristic facial features, what other types of medical/physical complications might a person caring for an individual with Down syndrome expect?

Answer: They are more at risk for heart problems, leukemia, and cancer, and their life expectancy is lower than average.

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Learning Objective: 2.14

Bloom's Taxonomy Level: Remember

39. Which test can be done earlier: amniocentesis or chorionic villus sampling (CVS)? Explain each.

Answer: CVS can be done earlier, at about 5–10 weeks gestation versus 15–20 weeks. CVS entails inserting a tube through the vagina and into the uterus to remove cells from what will eventually be the umbilical cord. Amniocentesis involves inserting a needle into the abdomen to remove amniotic fluid, which contains cells that have been sloughed off from the developing organism. Both are used to detect genetic problems.

Page: 80–81

Learning Objective: 2.16

Bloom's Taxonomy Level: Understand

Essay Questions

40. Compare and contrast chromosomal disorders and genetic disorders. Be sure to explain the difference between the two and describe an example for each. Finally, what advice would offer to parents who believe they are at high risk of having a child with a chromosomal or genetic disorder.

Answer: Chromosomal disorders occur because chromosomes fail to divide properly.

Genetic disorders, on the other hand, are caused by incomplete inheritance or mutations.

Examples of chromosomal disorders: sex chromosome disorders, Down syndrome.

Examples of genetic disorders: Sickle-cell anemia, fragile X syndrome, PKU

Advice: Answers will vary. Students might recommend genetic counseling, prenatal screening/diagnosis, or to act in supportive and encouraging ways toward the child once he/she is born to increase the likelihood of favorable development.

Page: 77–81

Learning Objective: 2.14–2.17

Bloom's Taxonomy Level: Understand

REVEL Quiz Questions**ArnettChild_2e_EOC_Q2.1**

For hair texture, curly is the dominant allele and straight hair is the recessive allele. Arabella has straight hair. Her mother has curly hair and her father has straight hair. Which of the following is a possibility for the combination of alleles she might have inherited from her parents?

- a. a curly allele from her curly-haired mother and a straight allele from her straight-haired father
- b. a straight allele from her curly-haired mother and a straight allele from her straight-haired father
- c. a curly allele from her curly-haired mother and a curly allele from her straight-haired father
- d. a straight allele from her curly-haired mother and a curly allele from her straight-haired father

Answer: B

Difficulty: 2

Topic: Genotype and Phenotype

Skill: Applied

LO 2.1 Distinguish between *genotype* and *phenotype* and identify the different forms of genetic inheritance.

ArnettChild_2e_EOC_Q2.2

_____ are at greater risk for X-linked recessive disorders because they have _____.

- a. Males; only one X chromosome
- b. Females; only one X chromosome
- c. Females; 2 X chromosomes
- d. Males; 2 X chromosomes

Answer: A

Difficulty: 1

Topic: The Sex Chromosomes

Skill: Factual

LO 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

ArnettChild_2e_EOC_Q2.3

Dr. Meyers is a behavioral geneticist. She is investigating whether school achievement has a genetic component. Which of the following scenarios would indicate to her that there is a large genetic component?

- a. Dizygotic twins show greater similarities in school achievement than siblings born 2 years apart.
- b. Adopted children show great similarities in school achievement to their adopted parents than their biological parents.
- c. Monozygotic twins show greater similarities in school achievement than dizygotic twins.
- d. Siblings born 2 years apart show greater similarities in school achievement than dizygotic twins.

Answer: C

Difficulty: 3

Topic: Principles of Behavior Genetics

Skill: Applied

LO 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

ArnettChild_2e_EOC_Q2.4

Which of the following is the best illustration of epigenesis?

- a. Females who are under-nourished start menstruating later than females who are properly nourished.
- b. Men are often taller than their mothers.
- c. Monozygotic twins separated at birth (one growing up under-nourished, the other properly nourished) are the same height as adults.
- d. A daughter inherits a genetic disorder from her mother.

Answer: A

Difficulty: 2

Topic: Gene–Environment Interactions: Epigenesis and Reaction Ranges

Skill: Conceptual

LO 2.4 Describe how the concept of *epigenesis* frames gene–environment interactions, and connect epigenesis to the concept of *reaction range*.

ArnettChild_2e_EOC_Q2.5

Ever since he was little, Zachary has been fascinated with what his mother is cooking. As a toddler, he asked her lots of questions about it. As a young child, he began helping her by mixing and measuring. Now that he's in 3rd grade, his mother has signed him up for cooking classes.

What type of effect is this?

- a. passive genotype → environment effects
- b. evocative genotype → environment effects
- c. active genotype → environment effects
- d. generalizability

Answer: B

Difficulty: 2

Topic: The Theory of Genotype–Environment Effects

Skill: Conceptual

LO 2.5 Explain how the theory of genotype–environment effects casts new light on the old nature–nurture debate.

ArnettChild_2e_EOC_Q2.6

Elira is a short, slender young woman who has always loved sports and competition, but hasn't been able to keep up physically. When she gets to college, she learns that the college's rowing team has a position called a "coxswain" in which it is advantageous to be small and competitive. She joins the team and starts training for this position. What type of effect is this?

- a. passive genotype → environment effects
- b. evocative genotype → environment effects
- c. active genotype → environment effects
- d. validity

Answer: C

Difficulty: 2

Topic: The Theory of Genotype–Environment Effects

Skill: Conceptual

LO 2.5 Explain how the theory of genotype–environment effects casts new light on the old nature–nurture debate.

ArnettChild_2e_EOC_Q2.7

_____ sperm is/are produced through a process called _____, and each sperm cell contains _____ chromosomes.

- a. Four; meiosis; 23
- b. One; meiosis; 46
- c. Three; mitosis; 23
- d. Four; meiosis; 46

Answer: A

Difficulty: 1

Topic: Sperm and egg formation

Skill: Factual

LO 2.6 Outline the process of meiosis in the formation of reproductive cells.

ArnettChild_2e_EOC_Q2.8

When do women finish producing ova?

- a. when they reach menopause
- b. when they are still in their mother's womb
- c. when they begin menstruating
- d. never; they continue to produce ova for their entire life

Answer: B

Difficulty: 1

Topic: Sperm and egg formation

Skill: Factual

LO 2.6 Outline the process of meiosis in the formation of reproductive cells.

ArnettChild_2e_EOC_Q2.9

Where does fertilization take place?

- a. uterus
- b. ovary
- c. fallopian tubes
- d. vagina

Answer: C

Difficulty: 2

Topic: Conception

Skill: Conceptual

LO 2.7 Describe the process of fertilization and conception.

ArnettChild_2e_EOC_Q2.10

What is the result of two sperm fertilizing one ovum?

- a. monozygotic twins
- b. dizygotic twins

- c. miscarriage
- d. This is impossible.

Answer: D

Difficulty: 1

Topic: Conception

Skill: Conceptual

LO 2.7 Describe the process of fertilization and conception.

ArnettChild_2e_EOC_Q2.11

Which of the following is NOT a main source of infertility in men?

- a. too few sperm produced
- b. poor quality of sperm
- c. sperm that are low in motility
- d. too many sperm produced

Answer: D

Difficulty: 1

Topic: Infertility

Skill: Factual

LO 2.8 List the major causes of and treatment for infertility, and describe how infertility is viewed in different cultures.

ArnettChild_2e_EOC_Q2.12

What is the process of *in vitro* fertilization (IVF)?

- a. A woman consults her midwife about her infertility problems and the midwife prescribes an herbal supplement regiment.
- b. A woman takes fertility drugs to stimulate follicle production and then has sexual intercourse.
- c. A woman takes fertility drugs to stimulate follicle production. Then, a doctor harvests the ova, fertilizes them, and places the zygotes back in the uterus.
- d. Sperm are injected directly into the woman's uterus.

Answer: C

Difficulty: 1

Topic: Infertility

Skill: Factual

LO 2.8 List the major causes of and treatment for infertility, and describe how infertility is viewed in different cultures.

ArnettChild_2e_EOC_Q2.13

What structures does the trophoblast NOT become?

- a. amnion
- b. placenta
- c. umbilical cord
- d. embryo

Answer: D

Difficulty: 1

Topic: The Germinal Period (First 2 Weeks)

Skill: Factual

LO 2.9 Describe the structures that form during the germinal period.

ArnettChild_2e_EOC_Q2.14

What does the placenta NOT do?

- a. allows nutrients to pass from mother to developing organism
- b. protects developing organism from bacteria and wastes in mother's blood
- c. protects the mother from waste produced by the baby
- d. produces hormones that maintain blood in the uterine wall and stimulates breasts to produce milk

Answer: C

Difficulty: 1

Topic: The Germinal Period (First 2 Weeks)

Skill: Factual

LO 2.9 Describe the structures that form during the germinal period.

ArnettChild_2e_EOC_Q2.15

Which body system develops first and fastest in the embryo?

- a. digestive system
- b. circulatory system
- c. nervous system
- d. reproductive system

Answer: C

Difficulty: 1

Topic: The Embryonic Period (Weeks 3–8)

Skill: Factual

LO 2.10 Outline the major milestones of the embryonic period.

ArnettChild_2e_EOC_Q2.16

Your pregnant friend is eager to tell you about how she feels the fetus kick often and even hiccup. Without asking, you know that you friend is probably at what stage in her pregnancy?

- a. beginning of second trimester
- b. middle to end of second trimester
- c. middle to end of third trimester
- d. middle to end of first trimester

Answer: B

Difficulty: 2

Topic: The Fetal Period (Week 9–Birth)

Skill: Factual

LO 2.11 Describe the major milestones of the fetal period and identify when viability occurs.

ArnettChild_2e_EOC_Q2.17

Decasper and Spence (1986) had pregnant participants read *The Cat in the Hat* to their fetuses during the last 6 weeks of pregnancy. Which of the following sentences best describes their findings?

- a. Newborns showed a preference for their mother's voice reading over a stranger's voice reading.
- b. Newborns showed a preference for their mother's voice reading any rhythmic story over a non-rhythmic story.

- c. Newborns showed a preference for their mother's voice reading *Cat in the Hat* over another rhythmic story.
- d. Newborns showed a preference for any adult woman's voice reading *Cat in the Hat* over another rhythmic story.

Answer: C

Difficulty: 2

Topic: The Fetal Period (Week 9–Birth)

Skill: Conceptual

LO 2.11 Describe the major milestones of the fetal period and identify when viability occurs.

ArnettChild_2e_EOC_Q2.18

Your senator has asked you what services the country can provide to ensure babies are born healthier. Based on your knowledge from this class, what do you tell him?

- a. The country should pass laws to ban the sale of alcohol and tobacco to pregnant women.
- b. The country should make high quality prenatal care with skilled health care workers available to all pregnant women.
- c. The country should require all women to give birth in a hospital.
- d. The country should educate women about the dangers of gaining more than 15 pounds when they're pregnant.

Answer: B

Difficulty: 1

Topic: Variations in Prenatal Care

Skill: Applied

LO 2.12 Compare and contrast prenatal care in traditional cultures and developed countries.

ArnettChild_2e_EOC_Q2.19

Which of the following is NOT one of the most common nutritional deficiencies of pregnant women around the world?

- a. iron
- b. folic acid
- c. iodine
- d. Vitamin C

Answer: D

Difficulty: 1

Topic: Teratogens

Skill: Factual

LO 2.13 Identify the major teratogens in developing countries and developed countries.

ArnettChild_2e_EOC_Q2.20

Approximately 1 in _____ live births is a child with a chromosomal disorder.

- a. 100
- b. 50
- c. 2,000
- d. 200

Answer: D

Difficulty: 1

Topic: Chromosomal Disorders

Skill: Factual

LO 2.14 Explain how chromosomal disorders occur.

ArnettChild_2e_EOC_Q2.21

What parental characteristics make it more likely children will be born with a chromosomal disorder?

- a. mother's diet during pregnancy
- b. whether the mother or father has a chromosomal disorder themselves
- c. father's age
- d. mother's age

Answer: D

Difficulty: 2

Topic: Chromosomal Disorders

Skill: Applied

LO 2.14 Explain how chromosomal disorders occur.

ArnettChild_2e_EOC_Q2.22

Which of the following is true about PKU?

- a. PKU causes exceptional intellectual ability.
- b. Early treatment is very effective.
- c. A high-protein diet is recommended for teens with PKU.
- d. People with PKU do not produce enough phenylalanine.

Answer: B

Difficulty: 3

Topic: Genetic Disorders

Skill: Factual

LO 2.15 Describe causes and symptoms of some common genetic disorders.

ArnettChild_2e_EOC_Q2.23

Which of the following is NOT a reason that women have ultrasounds?

- a. They want to know the biological sex of the baby.
- b. They want the doctor to screen for any physical abnormalities.
- c. They want to know how much nutrition the fetus is receiving from the placenta.
- d. They want to check that their triplets are all developing correctly.

Answer: C

Difficulty: 1

Topic: Prenatal Diagnosis

Skill: Factual

LO 2.16 Describe the three main techniques of prenatal diagnosis.

ArnettChild_2e_EOC_Q2.24

Your cousin is 9 weeks pregnant and is going to the doctor for a prenatal diagnostic test. She doesn't remember the name of the test, but remembers the procedure. What is she likely to describe?

- a. The doctors will stick a long, hollow needle into her abdomen and take a sample of amniotic fluid.
- b. High-frequency sound waves will be directed toward the uterus.

- c. A tube is inserted into the vagina and cells are collected from what is forming the umbilical cord.
- d. She has to drink a very sugary drink and then have a blood test.

Answer: C

Difficulty: 3

Topic: Prenatal Diagnosis

Skill: Conceptual

LO 2.16 Describe the three main techniques of prenatal diagnosis.

ArnettChild_2e_EOC_Q2.25

After providing a comprehensive family history, what is the next step in genetic counseling?

- a. Each partner provides a biological sample so doctors can analyze their chromosomes.
- b. Women are given fertility drugs to boost their chance of getting pregnant.
- c. Couples sign up for research studies about people trying to conceive.
- d. Each partner must go through individual talk therapy with a licensed therapist.

Answer: A

Difficulty: 1

Topic: Genetic Counseling

Skill: Factual

LO 2.17 Explain who is likely to seek genetic counseling and for what purposes.

EOM Quiz Question 2.1.1

Enrico's biological parents were both musicians, so he was born with a(n) _____ that included exceptional musical ability, but because he was never exposed to musical instruments or instruction when he was adopted, he never developed his musical ability.

- a. allele
- b. genotype
- c. phenotype
- d. heritability

Answer: B

Difficulty: 3

Topic: Genotype and Phenotype

Skill: Analytical

LO 2.1 Distinguish between *genotype* and *phenotype* and identify the different forms of genetic inheritance.

EOM Quiz Question 2.1.2

The physical, behavioral, and psychological features of a person that are the result of the interaction between one's genes and the environment are part of the _____.

- a. alleles
- b. chromosomes
- c. genotype
- d. phenotype

Answer: D

Difficulty: 1

Topic: Genotype and Phenotype

Skill: Factual

LO 2.1 Distinguish between *genotype* and *phenotype* and identify the different forms of genetic inheritance.

EOM Quiz Question 2.1.3

Most physical and psychological traits are _____.

- a. determined by one dominant gene
- b. determined by co-dominant alleles
- c. polygenic
- d. not determined by genes

Answer: C

Difficulty: 2

Topic: Genotype and Phenotype

Skill: Factual

LO 2.1 Distinguish between *genotype* and *phenotype* and identify the different forms of genetic inheritance.

EOM Quiz Question 2.1.4

Sadie carries the recessive gene for hemophilia, a disorder in which the blood does not clot properly. If Sadie had two children, a boy and a girl, and passed the recessive gene for the disorder to both children, which of her children would develop hemophilia if the father does not have hemophilia himself?

- a. neither of the two children
- b. both children
- c. the boy
- d. the girl

Answer: C

Difficulty: 3

Topic: The Sex Chromosomes

Skill: Analytical

LO 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

EOM Quiz Question 2.1.5

Which of the following is TRUE?

- a. All eggs in the mother contain an X chromosome.
- b. All sperm carry a Y chromosome.
- c. The Y chromosome is larger than the X chromosome.
- d. The X chromosome and Y chromosome carry the same amount of genetic material.

Answer: A

Difficulty: 1

Topic: The Sex Chromosomes

Skill: Factual

LO 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

EOM Quiz Question 2.2.1

The heritability of intelligence _____ from childhood to adulthood.

- a. decreases
- b. increases
- c. stays the same
- d. has not been calculated in this area of research

Answer: B

Difficulty: 2

Topic: Principles of Behavior Genetics

Skill: Factual

LO 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

EOM Quiz Question 2.2.2

The higher the concordance rate, _____.

- a. the more similar the two persons are
- b. the more different the two persons are
- c. the higher the person's chances of having twins
- d. the higher the person's quality of life is likely to be

Answer: A

Difficulty: 2

Topic: Principles of Behavior Genetics

Skill: Factual

LO 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

EOM Quiz Question 2.2.3

Girls normally begin menstruating around age 11 to 16, toward the lower end of this range under healthy conditions and toward the higher end when nutrition is insufficient. This is an example of _____.

- a. a high concordance rate
- b. a low concordance rate
- c. epigenesis
- d. heritability

Answer: C

Difficulty: 2

Topic: Gene–Environment Interactions: Epigenesis and Reaction Ranges

Skill: Conceptual

LO 2.4 Describe how the concept of *epigenesis* frames gene–environment interactions, and connect epigenesis to the concept of *reaction range*.

EOM Quiz Question 2.2.4

In recent decades in Western countries, there has been little change in average height, indicating that the populations of these countries have reached the upper boundary of _____ for height.

- a. their concordance rate
- b. their heritability

- c. their reaction range
- d. their polygenic inheritance

Answer: C

Difficulty: 2

Topic: Gene–Environment Interactions: Epigenesis and Reaction Ranges

Skill: Conceptual

LO 2.4 Describe how the concept of *epigenesis* frames gene–environment interactions, and connect epigenesis to the concept of *reaction range*.

EOM Quiz Question 2.2.5

A toddler from the Hamar tribe in Ethiopia was adopted by an American couple who described themselves as “non-athletes.” This tribe was known for having members who are exceptionally tall. Once she started school, she asked to play in the after-school basketball program, tried out for the team in middle school and high school and eventually went on to earn a scholarship to play in college. This is an example of _____.

- a. polygenic inheritance
- b. incomplete dominance
- c. a self-fulfilling prophecy
- d. niche picking

Answer: D

Difficulty: 2

Topic: The Theory of Genotype–Environment Effects

Skill: Applied

LO 2.5 Explain how the theory of genotype–environment effects casts new light on the old nature–nurture debate.

EOM Quiz Question 2.3.1

As a result of the process of crossing over, _____.

- a. the risk of sickle-cell anemia decreases
- b. boys are more likely to be born with a learning disability
- c. the genetic material that originated from the mother and father is rearranged
- d. women are at increased risk for infertility

Answer: C

Difficulty: 2

Topic: Sperm and Egg Formation

Skill: Conceptual

LO 2.6 Outline the process of meiosis in the formation of reproductive cells.

EOM Quiz Question 2.3.2

The _____ is formed when the ovum and sperm unite and fertilization takes place.

- a. blastula
- b. blastocyst
- c. zygote
- d. embryo

Answer: C

Difficulty: 1

Topic: Conception

Skill: Remember

LO 2.7 Describe the process of fertilization and conception.

EOM Quiz Question 2.3.3

Fertilization can take place only _____.

- a. within three days after the ovum enters the fallopian tube
- b. in the first 24 hours after the ovum enters the fallopian tube
- c. in the first 2 hours after the ovum enters the fallopian tube
- d. if intercourse occurs on the day of ovulation

Answer: B

Difficulty: 1

Topic: Conception

Skill: Remember

LO 2.7 Describe the process of fertilization and conception.

EOM Quiz Question 2.3.4

In general, _____ have the highest rates of DZ twins.

- a. African Americans
- b. European Americans
- c. Asian Americans
- d. Hispanic Americans

Answer: A

Difficulty: 1

Topic: Conception

Skill: Remember

LO 2.7 Describe the process of fertilization and conception.

EOM Quiz Question 2.3.5

Shonda and Trinity have been a couple for eight years, and they are now excited to take the leap into parenthood together. Because they are both women, they have decided to use _____, which would involve injecting a donor's sperm into Shonda's uterus while she is ovulating.

- a. epidurals
- b. artificial insemination
- c. in vitro fertilization
- d. chorionic villus sampling

Answer: B

Difficulty: 2

Topic: Infertility

Skill: Apply

LO 2.7 Describe the process of fertilization and conception.

EOM Quiz Question 2.4.1

After fertilization, the first 2 weeks of pregnancy is called the _____.

- a. germinal period
- b. embryonic period
- c. fetal period
- d. first trimester

Answer: A

Difficulty: 1

Topic: The Germinal Period (First 2 Weeks)

Skill: Remember

LO 2.9 Describe the structures that form during the germinal period.

EOM Quiz Question 2.4.2

The blastocyst forms during the _____.

- a. germinal period
- b. embryonic period
- c. fetal period
- d. second trimester

Answer: A

Difficulty: 2

Topic: The Germinal Period (First 2 Weeks)

Skill: Remember

LO 2.9 Describe the structures that form during the germinal period.

EOM Quiz Question 2.4.3

The _____ form from the outer layer of the embryonic disk.

- a. digestive and respiratory systems
- b. brain and spinal cord
- c. skin, hair, nails, sensory organs, and nervous system
- d. lungs and heart

Answer: C

Difficulty: 2

Topic: The Embryonic Period (Weeks 3–8)

Skill: Remember

LO 2.10 Outline the major milestones of the embryonic period.

EOM Quiz Question 2.4.4

During the _____ period of prenatal development nearly all the major organs are formed.

- a. germinal
- b. zygotic
- c. embryonic
- d. fetal

Answer: C

Difficulty: 2

Topic: The Embryonic Period (Weeks 3–8)

Skill: Remember

LO 2.10 Outline the major milestones of the embryonic period.

EOM Quiz Question 2.4.5

Maddox, a baby born 6 weeks prematurely, is more at risk of not surviving than his sister, Shekia, who was born full term because Maddox's _____ is/are still immature.

- a. heart

- b. intestines
- c. lungs
- d. pancreas

Answer: C

Difficulty: 2

Topic: The Fetal Period (Week 9–Birth)

Skill: Apply

LO 2.11 Describe the major milestones of the fetal period and identify when viability occurs.

EOM Quiz Question 2.5.1

Melinda is a healthy woman who just found out she was pregnant and went for her first prenatal visit. Which of the following pieces of advice is she most likely to receive from her physician?

- a. Avoid even mild exercise.
- b. Avoid Kegel exercises.
- c. Drink slightly less fluids than usual.
- d. Eat foods with sufficient iodine.

Answer: D

Difficulty: 2

Topic: Variations in Prenatal Care

Skill: Remember

LO 2.12 Compare and contrast prenatal care in traditional cultures and developed countries.

EOM Quiz Question 2.5.2

Your sister is pregnant. She has always been health conscious and exercises regularly. She is planning on engaging in aerobic exercise by continuing to go to her exercise classes. According to most physicians, she should _____.

- a. be very careful as this type of exercise during pregnancy could lower muscle mass
- b. exercise regularly as she will stimulate the circulatory system and muscles
- c. exercise regularly because it lowers the chances of teratogens reaching the fetus
- d. avoid aerobic exercise because it has been shown to dangerously increase fetal heart rate

Answer: B

Difficulty: 2

Topic: Variations in Prenatal Care

Skill: Remember

LO 2.12 Compare and contrast prenatal care in traditional cultures and developed countries.

EOM Quiz Question 2.5.3

The most common teratogen worldwide is _____.

- a. malnutrition
- b. rubella
- c. alcohol
- d. tobacco

Answer: A

Difficulty: 2

Topic: Teratogens

Skill: Remember

LO 2.13 Identify the major teratogens in developing countries and developed countries.

EOM Quiz Question 2.5.4

Marie is a heavy drinker and managed to stop drinking for most of her pregnancy. If she drank alcohol during the _____ period, her baby would be most at risk of structural damage.

- a. prenatal
- b. embryonic
- c. germinal
- d. blastula

Answer: B

Difficulty: 2

Topic: Teratogens

Skill: Apply

LO 2.13 Identify the major teratogens in developing countries and developed countries.

EOM Quiz Question 2.5.5

It is January 1989 in Beijing, China, and Huang and Jiao have just married. They want to conceive a child as soon as possible, as most newly married Chinese couples do. Considering it is the middle of winter, and fruits and vegetables are not readily available, what important nutrient in Huang's prenatal diet is likely to be missing, potentially causing her child to be born with spina bifida?

- a. folic acid
- b. potassium
- c. calcium
- d. Vitamin D

Answer: A

Difficulty: 3

Topic: Teratogens

Skill: Apply

LO 2.13 Identify the major teratogens in developing countries and developed countries.

EOM Quiz Question 2.6.1

Julie is a 47-year-old college professor who was shocked to find out she was pregnant. Although she was elated at the idea of having another child, she was worried about having a child with _____ because the chances increase dramatically after age 45.

- a. anencephaly
- b. spina bifida
- c. cystic fibrosis
- d. Down syndrome

Answer: D

Difficulty: 1

Topic: Chromosomal Disorders

Skill: Remember

LO 2.14 Explain how chromosomal disorders occur.

EOM Quiz Question 2.6.2

Which of the following is TRUE regarding people with Down syndrome?

- a. They are at increased risk for an abnormality in the development of the reproductive system.
- b. Their total brain volume tends to increase in their 20s.
- c. They age faster than other people.
- d. With advances in medical treatment, their life expectancy is now about the same as in the general population.

Answer: C

Difficulty: 2

Topic: Chromosomal Disorders

Skill: Understand

LO 2.14 Explain how chromosomal disorders occur.

EOM Quiz Question 2.6.3

There are two main types of chromosomal disorders, those that take place on the 21st pair of chromosomes and those that _____.

- a. take place on the 20th pair
- b. take place on the 22nd pair
- c. involve the sex chromosomes
- d. involve rapidly developing chromosomes

Answer: B

Difficulty: 2

Topic: Chromosomal Disorders

Skill: Remember

LO 2.14 Explain how chromosomal disorders occur.

EOM Quiz Question 2.6.4

Errol's father carries two recessive genes for sickle-cell anemia, and Errol's mother carries two normal dominant genes. Therefore, Errol has inherited _____ from his parents.

- a. anemia
- b. a resistance to malaria
- c. sickle-cell anemia
- d. Huntington's chorea

Answer: B

Difficulty: 3

Topic: Genetic Disorders

Skill: Apply

LO 2.15 Describe causes and symptoms of some common genetic disorders.

EOM Quiz Question 2.6.5

Individuals of _____ descent are most likely to have sickle-cell anemia.

- a. Asian
- b. Hispanic
- c. African
- d. Native American

Answer: C

Difficulty: 2

Topic: Genetic Disorders

Skill: Remember

LO 2.15 Describe causes and symptoms of some common genetic disorders.

EOM Quiz Question 2.7.1

Which of the following is safest in terms of risk of miscarriage?

- a. chorionic villus sampling
- b. amniocentesis
- c. ultrasound
- d. They all carry about the same level of risk for miscarriage.

Answer: C

Difficulty: 1

Topic: Prenatal Diagnosis

Skill: Apply

LO 2.16 Describe the three main techniques of prenatal diagnosis.

EOM Quiz Question 2.7.2

Carissa has a family history of Down syndrome and is in her 5th week of pregnancy. She decides that she would like to find out as early as possible whether her unborn child has Down syndrome or any other genetic abnormality. What test is she likely to get?

- a. chorionic villus sampling
- b. amniocentesis
- c. sonogram
- d. echocardiogram

Answer: A

Difficulty: 3

Topic: Prenatal Diagnosis

Skill: Analyze

LO 2.16 Describe the three main techniques of prenatal diagnosis.

EOM Quiz Question 2.7.3

Chorionic villus sampling _____.

- a. is the safest of all prenatal testing techniques
- b. can be done as early as the third week of pregnancy
- c. is conducted with cells that are forming the umbilical cord
- d. is dangerous and is no longer conducted in the United States

Answer: C

Difficulty: 1

Topic: Prenatal Diagnosis

Skill: Remember

LO 2.16 Describe the three main techniques of prenatal diagnosis.

EOM Quiz Question 2.7.4

A couple comes to your genetic counseling clinic concerned that they might have a second child affected with the same X-linked recessive disease displayed by their son. Neither of the parents displays the trait. What do you tell them?

- a. Because it's a recessive trait, they must both be carriers.
- b. Because it's a recessive trait, only the father could pass the gene to the next offspring.

- c. They have a chance of having another affected son.
- d. They are not at risk of having another affected child.

Answer: C

Difficulty: 3

Topic: Genetic Counseling

Skill: Analyze

LO 2.17 Explain who is likely to seek genetic counseling and for what purposes.

EOM Quiz Question 2.7.5

Genetic counseling is sought by _____.

- a. couples before they try to conceive
- b. couples of any age who have a family history of genetic issues
- c. couples who are over age 40
- d. any of the above

Answer: D

Difficulty: 2

Topic: Genetic Counseling

Skill: Remember

LO 2.17 Explain who is likely to seek genetic counseling and for what purposes.