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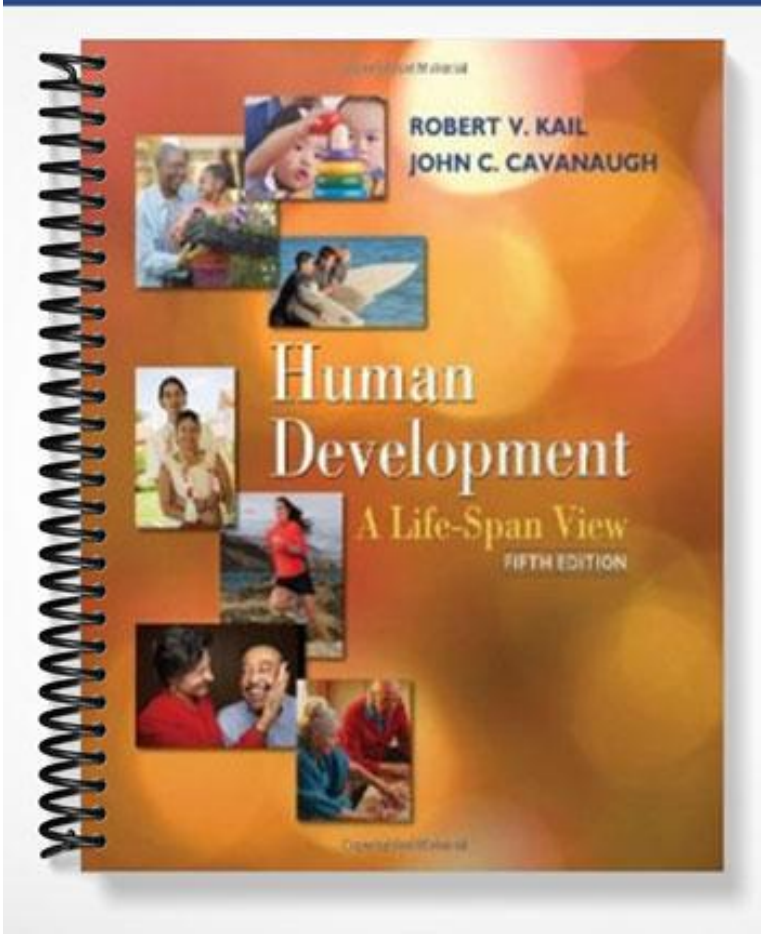
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Human Development
A Life-Span View
FIFTH EDITION

Chapter 2--Biological Foundations: Heredity, Prenatal Development, and Birth

Student: _____

1. You are currently experiencing severe pain in your leg and go to your physician for a checkup. During the examination your physician says, “The pain you are experiencing appears to be due to misshapen blood cells that are blocking the flow of oxygen to your leg.” This would indicate that the most accurate diagnosis of your condition would be

   A. cerebral palsy.
   B. Huntington's disease.
   C. sickle-cell disease.
   D. hemophilia.

2. The threadlike structures in the nucleus of a cell that contain genetic material are called

   A. chromosomes.
   B. germ discs.
   C. ectoderms.
   D. phenotypes.

3. If you were looking through a microscope at a normal sperm cell, you should see _____ chromosomes.

   A. 2
   B. 22
   C. 23
   D. 46

4. The first _____ pairs of chromosomes are called autosomes.

   A. 2
   B. 10
   C. 22
   D. 46

5. Igor is approached by a mad scientist who says he will pay Igor either $100 for each pair of his autosomes or $500 for each pair of his sex chromosomes. Assuming Igor wants to make as much money as possible, which offer should he take?

   A. $100 for each pair of autosomes
   B. $500 for each pair of sex chromosomes
   C. Either one, because Igor will make the same amount with both offers
   D. Neither one, because unfortunately humans have neither autosomes nor sex chromosomes

6. When looking through a microscope at an entire set of human male chromosomes, how would you be able to differentiate an autosome pair from a sex chromosome pair?

   A. The sex chromosome pair would be about 10 times larger than the autosome pair.
   B. The circular-shaped cells would be the autosomes and the square shapes would be the sex chromosomes.
   C. There would be 3 cells in the autosome “pair” and 2 cells in the sex chromosome “pair.”
   D. The shape of the sex chromosomes would differ, whereas each autosome pair would look identical.

7. A sperm cell contains a total of 22

   A. genes
   B. chromosomes.
   C. autosomes.
   D. sex cells.

8. What combination would result in a boy?

   A. a 17th pair of chromosomes with one X and one Y
   B. a 23rd-pair of chromosomes with one X and one Y
   C. a17th pair of chromosomes with two Xs
   D. a 23rd-pair of chromosomes with two Xs

9. How many DNA molecules are typically contained in each human chromosome?

   A. 1
   B. 46
   C. 468
   D. 100,000

10. Thymine and cytosine are types of

    A. genes.
    B. the first neurotransmitters produced in the brain.
    C. autosomes.
    D. the basic chemical compounds that form the double helix of a DNA molecule.

11. Human DNA is composed of a total of _____ different nucleotide bases.

    A. 4
    B. 23
    C. 444
    D. 30000

12. Genes provide the cell with a specific set of _____ instructions.

    A. hormonal
    B. biochemical
    C. in vitro
    D. bioelectric

13. Within a typical human cell, which number is the greatest?

    A. the number of chromosomes
    B. the number of autosomes
    C. the number of genes
    D. the number of different types of nucleotide bases

14. Who has created a gene?

    A. Tom, who has strung together 4 adenine “beads,” which now instruct the body to produce an enzyme
    B. Dick, who has just removed the sex chromosome from a cell
    C. Harry, who has just generated a single bead of guanine
    D. Sally, who has added an extra chromosome to a fertilized egg

15. The average child has approximately _____ genes.

    A. 30
    B. 30,000
    C. 30,000,000
    D. 30,000,000,000

16. Kyoko is 5 feet, 11 inches tall, plays tennis, and is an all-around nice person. This is a description of Kyoko's

    A. allele.
    B. genotype.
    C. homozygosity.
    D. phenotype.

17. Genotype is to phenotype as

    A. homozygous is to heterozygous.
    B. nurture is to nature.
    C. DNA is to RNA.
    D. chromosome pattern is to facial features.

18. Which is an example of your genotype?

    A. your complete set of genes
    B. your physical appearance
    C. your behaviors
    D. your personality

19. Which process can best be explained by alleles?

    A. the fact that phenotypes produce genotypes
    B. identical twins
    C. one gene on chromosome 12 results in red hair while another on the same chromosome instructs the body to produce blonde hair
    D. the teratogenic effects associated with fetal alcohol syndrome

20. Homozygous is to heterozygous as

    A. same is to different.
    B. recessive is to dominant.
    C. genotype is to phenotype.
    D. many is to few.

21. Linda has one allele for curly hair and another for straight hair. Linda's alleles are

    A. polyzygotic.
    B. dizygotic.
    C. homozygous.
    D. heterozygous.

22. Joseph is homozygous for normal blood cells. This means that he

    A. is an identical twin.
    B. has matching alleles.
    C. has recessive alleles.
    D. is likely to develop sickle-cell anemia.

23. How would you create an individual who will definitely have blue eyes?

A. Make sure they have a pair of homozygous chromosomes for blue eyes.
B. Make sure they have a pair of heterozygous chromosomes for eye color.
C. Make sure they have a pair of alleles for eye color.
D. Make sure they have 1 recessive gene for blue eyes.

24. Kirk is heterozygous for cheek dimples but is born with big dimples in both cheeks. Apparently, the allele for cheek dimples is

A. dominant.
B. sex-linked.
C. recessive.
D. polygenetic.

25. If a person had a dominant allele for blonde hair and a recessive allele for red hair, the probability of that person having red hair would be closest to

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

26. If tallness is dominant and designated as “T” and shortness is recessive and designated as “s,” who would likely be short?

A. Bing, who is “sT”
B. Crosby, who is “Ts”
C. Danny, who is “ss”
D. Kay, who is “TT”

27. If obesity is dominant and designated as “O” and thinness is recessive and designated as “t,” how many of the following individuals would likely be obese: Ginger who is “OO,” Mary Ann who is “Ot,” Thurston who is “tO,” Gilligan who is “tt”?

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

28. Which best exemplifies the concept of genetic incomplete dominance?

A. an individual with two alleles for baldness who has long hair
B. an individual with two alleles for shyness who is shy
C. an individual with one allele for obesity and another for thinness who is of average weight
D. an individual with a single allele for aggression who is violent

29. Which statement concerning the sickle-cell trait is true?

A. Individuals with the trait have the dominant phenotype but possess the recessive genotype.
B. Individuals with the trait have both a dominant and recessive allele for the disorder.
C. Individuals with the trait are genetically predisposed to the disorder but cannot display any symptoms.
D. Individuals with the trait tend to have the most severe form of the disease.

30. Dr. Fry has just been informed that his son has sickle-cell trait. As a knowledgeable physician Dr. Fry would realize that his son's body is most likely to experience

    A. excess levels of body fat
    B. serious oxygen deprivation
    C. decreased lung capacity
    D. blindness

31. What should Danko do when he is informed that his newborn son has PKU (phenylketonuria)?

    A. panic, since PKU is an incurable genetic disorder that results in severe mental retardation
    B. don't panic, since PKU can be cured with drug treatments
    C. don't panic, since PKU is a sex-linked disorder that affects only females
    D. don't panic, since despite being a genetic disorder, it can be controlled through proper diet (avoiding certain foods)

32. Janaka's two-year-old daughter is mentally retarded due, in part, to a diet that included fish, bread, and dairy products. The most likely diagnosis for Janaka's daughter is that she has

    A. Turner's syndrome.
    B. Huntington's disease.
    C. Tay Sachs disease.
    D. PKU.

33. Disease X is caused by a dominant allele and results in death prior to age three. The good news about Disease X is that

    A. it will not last long in the gene pool and will eventually disappear.
    B. it can only be passed along from a father to a son.
    C. as a dominant allele disorder it will always skip a generation.
    D. only half of the individuals who inherit the Disease X allele will actually get the disease.

34. Huntington's disease is an unusual genetic disorder in that it is a fatal disease caused by dominant alleles that

    A. impact late enough in life so that the individual can reproduce.
    B. are controllable through diet.
    C. both must come from mom.
    D. strike only males.

35. _____ is characterized by progressive degeneration of the nervous system.

    A. Huntington's disease
    B. Down syndrome
    C. Phenylketonuria
    D. Sickle-cell trait

36. Which physical characteristic is most indicative of an individual with Down syndrome?

    A. enlarged head
    B. fold of skin over the eyelid
    C. small tongue
    D. taller than age peers

37. Following a prenatal exam, your physician remarks, “It appears as if your fetus has 47 chromosomes.” What would be the most likely response to this information?

A. concern, as this may indicate that your child has Down syndrome
B. concern, as this may indicate that your child has sickle-cell anemia
C. concern, as this may indicate that your child has PKU
D. relief, since this is a normal number of chromosomes

38. Which maternal characteristic is most strongly associated with giving birth to a baby with Down syndrome?

A. low levels of intelligence (i.e., mental retardation)
B. consumption of alcohol
C. old age
D. exposure to lead or mercury

39. “Tri-somy 21” (three 21st chromosomes) best describes

A. Huntington’s disease.
B. Down syndrome.
C. PKU.
D. sickle-cell trait.

40. Because of his accurate knowledge of genetics and disorders, Benson knows that his newborn son has no chance of having

A. Turner’s syndrome.
B. Kleinfelter’s syndrome.
C. Huntington’s disease.
D. Down syndrome.

41. Which combination of sex chromosomes is *not* possible in a living human being?

A. a single X chromosome
B. XXY
C. XYY
D. a single Y chromosome

42. As a behavioral geneticist, Juan would most likely be studying

A. the maze learning behavior of rats.
B. the evolution of intelligence.
C. a gene that is believed to cause shyness.
D. the physiological structure of a gene.

43. Which statement best exemplifies the basic premise of behavioral genetics?

A. “your personality all in your genes”
B. “your personality all in your environment”
C. “people are either very open to new experiences or avoid new experiences at all costs”
D. “openness to new experience is not an either or proposition but represents a wide range of reactions”

44. If a physician informed you that your speech disorder was the result of problems on chromosomes 4, 7, and 15, you would rightly conclude that the disorder is always classifiable as

A. recessive.
B. polygenetic.
C. dominant.
D. sex-linked.

45. If the four dominant alleles for intelligence are WXYZ and the recessive alleles for intelligence are wxyz, which of the following would be the most common inheritance pattern?

    A. WWwwYYyy
    B. WWxXyYZZ
    C. WWXXYYZZ
    D. WwxxYYzZ

46. John and Wayne have the same genes. This indicates that they must be

    A. dizygotic twins.
    B. monozygotic twins.
    C. heterozygous.
    D. co-dominant.

47. As dizygotic twins, Jewel and Bjork

    A. are genetically identical.
    B. must have come from the same fertilized egg.
    C. share all phenotypes.
    D. share about half of their genes.

48. Monozygotic is to dizygotic as

    A. one mother is to two mothers.
    B. one egg is to two eggs.
    C. dominant is to recessive.
    D. heterozygous is to homozygous.

49. José, who was adopted at birth, is found to have personality characteristics more similar to his biological mom than to his adoptive mom. How should you interpret this data?

    A. Personality appears to be a polygenetic characteristic.
    B. Personality characteristics are learned.
    C. Personality characteristics are influenced by genes.
    D. Personality characteristics appear to be recessive.

50. Which results would *not* support the idea that genes play a significant role in behavior?

    A. finding dizygotic twins to be more similar than monozygotic twins
    B. finding children to be more similar to their biological parents than to their adoptive parents
    C. finding similarities between biological siblings
    D. finding monozygotic twins to be more similar than pairs of unrelated individuals

51. Dr. Smith has found that a certain genotype for depression may result in a wide variety of phenotypes, depending on environmental factors. In other words, this genotype

    A. has a large reaction range.
    B. is polygenetic.
    C. is sex-linked.
    D. is heterozygous for many traits.

52. What factor would play the largest role in determining the initial reaction range for any behavior?

    A. available environments
    B. personal motivation
    C. genetics
    D. arousal level

53. The concept of range of reactions involves the fact that

A. dizygotic twins are virtually genetically identical.
B. each genotype can produce a variety of phenotypes.
C. recessive genes are more commonly expressed than dominant genes.
D. the environment has little impact on behavior.

54. Despite being raised in two very different environments, identical twins Tina and Gina receive a similar score on a shyness scale. These results suggest that the reaction range for shyness is

A. small.
B. large.
C. inverse.
D. polygenetic.

55. Genes and environments

A. interact dynamically throughout development.
B. act independently throughout development.
C. interact dynamically in childhood and independently in adulthood.
D. act independently in childhood and interact dynamically in adulthood.

56. As a behavioral geneticist, Professor Klink is most likely to calculate the extent to which depression is inherited using a _____ coefficient.

A. nonshared
B. DNA
C. polygenetic
D. heritability

57. A heritability coefficient of _____ means about 50% of the difference between people on a specific characteristic is the result of heredity.

A. .5
B. 5
C. 50
D. 500

58. A heritability coefficient is a derivation of a(n)

A. t-test.
B. analysis of variance.
C. correlation.
D. chi-square.

59. ____ occurs when an individual intentionally seeks out an environment that matches characteristics driven by their genes.

A. Passive gene-environment interactions
B. Incomplete dominance
C. Niche-picking
D. Polygenetic inheritance

60. Which individual with a genetic predisposition toward being extroverted is demonstrating successful niche-picking?

A. Wink, who is a game-show host
B. Wilbur, who is a horse trainer
C. Sebastian, who is a hermit who lives in a cave by himself
D. Dexter, who spends a lot of time studying in the library

61. Nonshared environmental influences involve forces that make siblings

A. act in virtually identical ways.
B. homozygous.
C. dizygotic twins.
D. different from one another.

62. Jack and Jill are twins. Because he is a boy, Jack's dad and mom encourage him to run. On the other hand, Jack's mom and dad discourage Jill from engaging in athletic activity. As a result, Jack is much faster at running up a hill than Jill. The difference in Jack and Jill's behavior is best explained by

A. nonshared environmental influences.
B. active gene-environment relations.
C. polygenetic effects.
D. niche-picking.

63. Which statement is true?

A. environmental influences within a family typically make children within a family different
B. genes cannot influence the kind of environment to which a person is exposed
C. behavioral consequences of genetic instructions are independent from environmental factors
D. the impact of environment on heredity wanes with age

64. Which is *not* considered part of prenatal development?

A. fetal period
B. zygote period
C. neonatal period
D. embryonic period

65. Prenatal development begins

A. with sperm production.
B. with ovulation.
C. at conception.
D. at implantation into the uterus.

66. The period of the _____ lasts for approximately 2 weeks.

A. embryo
B. zygote
C. fetus
D. neonate

67. The uniting of the egg and sperm (conception) typically takes place in the

A. uterus.
B. testes.
C. Fallopian tube.
D. ovary.

68. If Agnieszka found out that she was conceived through in vitro fertilization, she would know for certain that

A. she was conceived in a petri dish.
B. she was conceived inside a fallopian tube.
C. her biological parents were not the same as the parents who reared her.
D. the woman who carried her as a baby was not the woman who reared her.

69. Which event occurs following in vitro fertilization?

A. A fertilized egg is placed directly into the uterus.
B. A sperm is injected directly into the fallopian tube.
C. A fertilized egg is directly placed in the ovary.
D. A single sperm is injected directly into a fertilized egg.

70. Which statement concerning in vitro fertilization is *false*?

A. The odds of having twins or triplets may increase.
B. About 90% of in vitro fertilization attempts are successful.
C. The procedure is not typically covered by insurance.
D. There is an increased risk of birth defects in infants conceived using the procedure.

71. Whose behavior best exemplifies eugenics?

A. Dr. Green, who uses an in vitro fertilization technique
B. Dr. Black, who allows only certain individuals to mate in an effort to build a master race
C. Dr. White, who studies the effects of thalidomide on prenatal development
D. Dr. Brown, who closely monitors the nutrition of expecting mothers

72. The period of the zygote begins with

A. ovulation.
B. ejaculation.
C. implantation.
D. fertilization.

73. A developing human being that is traveling from a fallopian tube to the uterus would most accurately be described as a(n)

A. embryo.
B. fetus.
C. zygote.
D. amnion.

74. What began as a single fertilized egg has just separated into two distinct eggs. The indicates the formation of _____ twins that has occurred during the _____ period of development.

A. fraternal; zygotic
B. fraternal; embryonic
C. identical; zygotic
D. identical; embryonic

75. The point at which a zygote burrows into the uterine wall is referred to as

A. fertilization.
B. implantation.
C. niche-picking.
D. dilation.

76. A physician has just informed pregnant Moesha that the human organism developing inside of her has just begun to show differentiationof its cells. As a knowledgeable student you would know that such an organism is technically call a(n)

A. embryo
B. zygote
C. fetus
D. neonate

77. Pregnant Patty's body is currently experiencing the event that triggers hormonal changes that will prevent further menstruation. This event is called

A. implantation.
B. conception.
C. dilation.
D. effacement.

78. The _____ is the cluster of cells in the center of the zygote that will eventually develop into the body.

A. amnion
B. stem cell
C. germ disc
D. placenta

79. I am the structure through which a mom and an embryo exchange waste and nutrients. I am called the

A. amnion.
B. stem cell.
C. germ disc.
D. placenta.

80. The developing human organism that has just become completely embedded in the wall of the uterus is called the

A. amnion.
B. fetus.
C. zygote.
D. embryo.

81. At five weeks after conception, a developing human is most accurately called a(n)

A. embryo
B. zygote
C. fetus
D. neonate

82. Hair and the nervous system develop during the embryonic period from cells contained in the _____ layer.

A. mesoderm
B. endoderm
C. placenta
D. ectoderm

83. Damage to cells in the embryo's _____ layer would be most likely to result in the development of a defective digestive system.

A. endoderm
B. placenta
C. ectoderm
D. mesoderm

84. Dr. Proctor tells Uma that her developing embryo is showing distortions in the development of its circulatory system. As a knowledgeable student of human development, Uma should realize that the problem is within cells of the _____ layer.

A. placenta
B. mesoderm
C. ectoderm
D. endoderm

85. Ectoderm is to endoderm as

A. heterozygous is to homozygous.
B. fraternal is to identical.
C. outer is to inner.
D. bone is to muscle.

86. Muscle and bones develop during the embryonic period from cells contained in the _____ layer.

A. mesoderm
B. endoderm
C. placenta
D. ectoderm

87. While observing a special monitor, a physician tells an expectant mother, “As you can see, the legs and arms have just begun to emerge.” From this description, you should realize that the two are looking at a(n)

A. zygote.
B. fetus.
C. embryo.
D. germ disc.

88. The sac in which the embryo resides is called the

A. ectoderm.
B. amnion.
C. germ disc.
D. placenta.

89. One key purpose of the amniotic fluid is to

A. provide the embryo with nutrients.
B. stimulate development of neurotransmitters.
C. screen the flow of blood between mom and embryo.
D. maintain a constant temperature for the embryo.

90. The _____ houses the blood vessels that join the embryo and its mother.

A. umbilical cord
B. amnion
C. germ disc
D. mesoderm

91. The placenta

A. directly connects the blood stream of the embryo to the blood stream of the mother.
B. contains amniotic fluid.
C. helps the fetus to maintain a constant temperature.
D. allows for an exchange of nutrients and waste.

92. The fact that the embryonic head develops before the body illustrates the _____ principle.

A. cephalocaudal
B. incomplete dominance
C. proximodistal
D. niche-picking

93. A doctor could best illustrate the proximodistal principle by discussing the fact that

A. male fetuses develop faster than female fetuses.
B. identical twins tend to be smaller than fraternal twins.
C. the outside portion of amniotic sac is thicker than the inside portion.
D. a baby can control its shoulder before it can control its fingers.

94. During prenatal development the arm develops before the fingers. This most illustrates the _____ principle.

A. Premack
B. coefficient
C. cephalocaudal
D. proximodistal

95. Which organism can truthfully state, “It is during my time that all body parts and organs are first put into place?”

A. the neonate
B. the zygote
C. the fetus
D. the embryo

96. Marsha's doctor informs her that her child is just entering the longest period of prenatal development. About how long has Marsha been carrying her unborn child?

A. 1 day
B. 3 weeks
C. 9 weeks
D. 28 weeks

97. Which event signals the beginning of the period of the fetus?

A. the first beat of the heart
B. the first neural activity in the neocortex
C. the formation of bone from cartilage
D. the attachment of the umbilical cord to the placenta

98. Which event marks the start of the fetal period of development?

A. implantation into the uterus
B. initial formation of internal organs
C. emergence from the Fallopian tube
D. cartilage begins to form into bone

99. Which statement concerning the cerebral cortex is *false*?

A. It develops during the embryonic period.
B. It is wrinkled in texture.
C. It regulates important behaviors.
D. It is also known as the germinal disc.

100. The thick, greasy" substance that covers the fetus around 5 to 6 months after conception is called

A. placenta.
B. vernix.
C. amnion.
D. endoderm.

101. Currently, the earliest "age of viability" occurs around _____ weeks after conception.

A. 14
B. 22
C. 30
D. 38

102. Which best describes the main finding of DeCasper and Spence's (1986) study in which pregnant mothers read the story *The Cat in the Hat*?

A. Prior to birth the fetus begins to mimic the sounds their mothers make.
B. After birth the infants appeared to recognize the rhythm at which their mother has read a story.
C. After birth infants showed no reaction when they once again heard a story that had been read by their mother before they were born.
D. After birth infants who had been read to began to speak at an earlier age than a control group that had not been read to.

103. Just after the birth of her son Nelly, mom Kelly was informed that little Nelly's neural tube did not properly close during his prenatal development. This would mean that Nelly will be diagnosed with

A. spina bifida.
B. muscular dystrophy.
C. cerebral palsy.
D. sickle-cell anemia.

104. A knowledgeable nutritionist would tell a pregnant mother that in order to reduce the risk of having a baby born with spina bifida, mom needs to make sure that she is ingesting an adequate amount of

A. vitamin A.
B. iron.
C. vitamin E.
D. folic acid.

105. Maternal stress is most likely to negatively impact a developing embryo/fetus when that stress is

A. intermittent and extreme.
B. intermittent and moderate.
C. chronic and extreme.
D. chronic and moderate.

106. The main reason why teenage mothers tend to give birth to less healthy infants than mothers in their 20s is that the teens

A. tend to neither seek nor receive good prenatal care.
B. take too many vitamins.
C. have more genetically defective eggs.
D. are more likely to smoke while pregnant.

107. Halley is 40 years old and she and her daughter Berry, 20, are both currently pregnant. Which statement concerning these two mothers is most accurate?

A. Berry has a greater risk of giving birth to a baby with sickle-cell anemia.
B. Halley is twice as fertile as Berry.
C. Berry's odds of having a baby with Down syndrome are 3 times higher than Halley's.
D. Halley has a greater risk of having a miscarriage.

108. A teratogen is any agent that

A. increases the likelihood of abnormal prenatal development.
B. enhances the flow of oxygen across the placental barrier.
C. decreases the chances of having a child with a genetic disorder.
D. inhibits the impact of drugs on the developing embryo.

109. Whose mother most likely took thalidomide while pregnant?

A. Dean, who has a heart defect
B. Martin, who has deformed arms and legs
C. Jerry, who is deaf
D. Lewis, who is severely mentally retarded

110. How many of the following are potential teratogens: aspirin, nicotine, cocaine, caffeine?

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

111. What effect is *not* associated with fetal alcohol syndrome?

A. slow growth
B. mental retardation
C. blindness
D. misshapen face

112. Bryant’s teachers notice that Bryant has unusual facial features (i.e., short nose and wide-set eyes) and shows signs of mental retardation. Due to her training in developmental psychology, Bryant’s teacher realizes that Bryant’s mom likely _____ while she was pregnant.

A. consumed alcohol
B. injected heroin
C. smoked marijuana
D. consumed an excessive amount of caffeine

113. A woman who consumes alcohol _____ has the greatest risk of giving birth to a baby with fetal alcohol syndrome.

A. lightly and sporadically
B. moderately and sporadically
C. lightly and consistently
D. moderately and consistently

114. Both AIDS and genital herpes

A. can be passed along to an infant as they pass through the birth canal.
B. typically result in blindness.
C. cannot be transmitted to a fetus through the placenta.
D. can be eliminated by maternal inoculation.

115. Research on prenatal exposure to video display terminals (VDTs) has indicated that

A. the most likely impact involves mental retardation.
B. VDT exposure has more impact on mom than fetus.
C. VDTs can safely be used by pregnant women.
D. the radiation levels of VDTs are similar to those of a common X-ray.

116. Which statement concerning teratogens is false?

A. They impact different genotypes differently.
B. They impact specific aspects of development.
C. Their effects may not emerge until later in life.
D. Their effects are the same regardless of the time when the individual is exposed.

117. The key lesson learned by the fact that thalidomide showed no impact when tested on prenatal rabbits but led to birth defects in prenatal humans is that

A. teratogens impact different genotypes differently.
B. teratogens impact specific aspects of development.
C. teratogen effects may not emerge until later in life.
D. teratogen effects are the same regardless of the time when the individual is exposed.

118. What was the most critical lesson about teratogens learned from studies on the use of the drug DES by pregnant women?

A. Sometimes what appear to be teratogens actually are harmless drugs.
B. Infants in the late fetal period appear to be the most at risk for impact from drug-related teratogens.
C. Sometimes the effects of teratogens are not apparent until long after exposure.
D. Females appear to be at much greater risk from teratogens.

119. Exposure to a teratogen during the _____ period is most likely to result in a spontaneous abortion.

A. implantation
B. zygotic
C. embryonic
D. fetal

120. As there is a history of hereditary disease in the families of Archie and Veronica, they have arranged a meeting with a specialist at which a family tree concerning the odds of them having a child with a birth defect will be constructed. This event would most accurately be described as

A. amniocentesis.
B. chorionic villus sampling.
C. teratogenic.
D. genetic counseling.

121. Claire is very concerned about the prebirth position of the child she is carrying. Which technique would be the best for determining whether Claire's concerns are warranted?

A. genetic counseling
B. ultrasound
C. chorionic villus sampling
D. amniocentesis

122. Which prenatal assessment technique results in a picture of the fetus?

A. genetic screening
B. ultrasound
C. chorionic villus sampling
D. amniocentesis

123. The sample taken during an amniocentesis comes from

A. the lining of the uterus.
B. inside the body of the fetus.
C. fluid surrounding the fetus.
D. the umbilical cord.

124. Regan is a medical student who is learning a procedure in which a long needle is inserted into the abdomen of a pregnant woman. What technique is he most likely learning?

A. genetic counseling
B. amniocentesis
C. chorionic villus sampling
D. ultrasound

125. Mia and her doctor need to know as quickly as possible (hopefully within 24 hours) whether the child she has been carrying for only 9 weeks possesses any genetic abnormalities. Which technique is Mia's doctor most likely to employ?

A. chorionic villus sampling
B. ultrasound
C. amniocentesis
D. genetic counseling

126. Troy is very interested in the field of fetal medicine. Given this, he would most likely be fascinated by a book titled

A. *Afterbirth Care and You.*
B. *The Benefits of Healthy Eating Before Pregnancy.*
C. *Fixing Birth Defects Before Birth.*
D. *The Importance of Childhood Inoculations.*

127. Physicians are currently able to correct spina bifida at around seven to eight months after birth using

A. genetic engineering.
B. fetal surgery.
C. chorionic villus sampling.
D. ultrasound.

128. The process in which defective cells in the body are replaced with cells that have had the genetic defect "repaired" is called

A. amniocentesis.
B. genetic engineering.
C. genetic screening.
D. niche-picking.

129. Because it involves prolonged physical effort, the process of childbirth is often referred to as involving stages of

A. labor.
B. parturition.
C. travail.
D. pursuit.

130. By the time Debbie got to the hospital to deliver her child, the child had entered the vagina opening. This means that Debbie was in the _____ stage of labor.

A. first
B. second
C. third
D. fourth

131. When her physician mentions the term "crowning," Erica, who is giving birth, should realize that means that her

A. cervix has just fully dilated.
B. uterine contractions are about to start.
C. baby's head has just reached the vaginal opening.
D. placenta is about to be delivered.

132. Which is expelled during afterbirth?

A. fetus
B. placenta
C. cervix
D. ova

133. Wilma is afraid of the pain involved in delivering her baby. Are childbirth classes likely to help her?

A. Yes, because women who take these courses report experiencing less pain than women who don't.
B. Yes, because women who take these courses qualify for painkilling medications they would not usually receive.
C. No, because childbirth courses only make people more knowledgeable about the birthing process and can have no effect on pain.
D. No, because individuals who know most about the birthing process experience the most pain.

134. Which is *not* a typical childbirth class technique for reducing the pain associated with delivery?

A. Teach deep breathing to reduce muscle tension.
B. Teach visual imagery focusing on pleasant scenes or experiences.
C. Teach a “coach” to attend to mother and help her cope with pain.
D. Teach that medications have no place in the delivery room.

135. During childbirth, who would most likely and most properly be referred to as a “doula?”

A. the doctor
B. the birthing coach
C. the mother
D. the newborn baby

136. For healthy pregnant women,

A. home and hospital delivery carry the same birth defect risk.
B. hospital delivery is safer than home delivery.
C. home delivery is safer than hospital delivery.
D. the home delivery versus hospital delivery risk factors are unknown.

137. Postpartum depression

A. occurs in about 50% of new mothers.
B. is more common following planned pregnancies than unplanned pregnancies.
C. is a purely psychological phenomenon (i.e., has no physiological basis).
D. may be reduced via breast-feeding.

138. After learning that his newborn son's birth involved hypoxia, Sven (a knowledgeable nurse) would most likely ask,

A. “How long until my wife's scar heals?”
B. “How long was the cord wrapped around his neck?”
C. “Did the cervix ever dilate?”
D. “Is such a premature birth normal?”

139. How is a physician most likely to guard against fetal hypoxia?

A. Monitor the fetus’ heart rate.
B. Avoid exposing the fetus to tainted blood.
C. Encourage mom to deliver vaginally.
D. Conduct a genetic screen of mom and dad.

140. A C-section is best thought of as

A. vaginal childbirth.
B. a technique for determining possible birth defects in an embryo.
C. a common form of teratogen.
D. the surgical removal of a fetus.

141. Mona has decided to have a c-section rather than a vaginal delivery. While this decision will reduce some risks it will increase the risk of

A. hypoxia.
B. spina bifida.
C. maternal infection.
D. low birth weight.

142. By definition, premature infants are born prior to _____ weeks after conception.

A. 42
B. 40
C. 38
D. 36

143. The cutoff between normal and low birth weight is about _____ pounds.

A. 7.7
B. 5.5
C. 3.3
D. 2.2

144. Because her birth weight was 1200 grams (about 3 pounds), Kia would be correctly classified as having a(n) _____ birth weight.

A. normal
B. low
C. very low
D. extremely low

145. Born 39 weeks after conception, Sasha weighs in at 900 grams (around 2 pounds). Given this information, Sasha is best defined as

A. full-term and normal birth weight.
B. preterm and normal birth weight.
C. preterm and very low birth weight.
D. preterm and extremely low birth weight.

146. Jamal was born 34 weeks after he was conceived and weighed 6 pounds. Jamal is best described as

A. full-term and normal birth weight.
B. preterm and normal birth weight.
C. full-term and low birth weight.
D. preterm and low birth weight.

147. Werner's (1989, 1995) longitudinal study on Hawaiian children indicated that problems associated with low birth weight

A. were typically lifelong.
B. had no impact on social or cognitive abilities.
C. were only found in males.
D. could be overcome if the child was raised in a stable family environment.

148. Infant mortality rate is defined as the percentage of infants who die

A. before birth.
B. during birth.
C. before their first birthday.
D. before their second birthday.

149. Which parent should most realistically fear her child dying before reaching their first birthday?

A. Alfie, who is in Afghanistan
B. Charleene, who is in the Czech Republic
C. Fran, who is in Finland
D. Jen, who is in Japan

150. Low birth weight can most effectively be prevented through

A. regular prenatal care.
B. avoiding teratogens.
C. maternal inoculations.
D. chorionic villus sampling.

151. A typical fertilized egg contains a total of 22 pairs of chromosomes.

True False

152. Your phenotype includes physical, psychological, and behavioral features.

True False

153. When the chromosomes in a pair are the same they are said to be heterozygous.

True False

154. Individuals with sickle-cell trait must carry both recessive alleles in order to display symptoms.

True False

155. While characterized as a progressive and fatal disorder, symptoms of Huntington's disease can be eliminated through a special diet.

True False

156. Monozygotic twins come from a single egg.

True False

157. According to the range of reaction model, a genotype can produce only one reaction.

True False

158. A heritability coefficient is used to calculate the extent to which a characteristic is the result of genetics.

True False

159. Nonshared environmental influences tend to make siblings in a family more similar to each other.

True False

160. The correct order of prenatal development is zygote to embryo to fetus.

True False

161. In vitro fertilization takes place in a test tube.

True False

162. Implantation occurs when the zygote burrows into the placenta.

True False

163. Hair and skin originally develops in the ectoderm layer of a zygote.

True False

164. The embryo is connected to the uterus via the Fallopian tube.

True False

165. Cephalocaudal development proceeds from your extremities toward your body.

True False

166. The period of the fetus is the longest period of prenatal development.

True False

167. The modern age of viability begins at 16 weeks.

True False

168. Pregnant women who fail to consume enough vitamin A are at risk for giving birth to a baby with spina bifida.

True False

169. The younger the mother the greater the risk that she will give birth to an infant with Down syndrome.

True False

170. Common symptoms of fetal alcohol syndrome include facial deformities, deafness, and mental retardation.

True False

171. Damage from teratogens are sometimes not evident until later in life.

True False

172. An ultrasound uses sound waves to create an image of a fetus.

True False

173. Research has demonstrated that childbirth techniques designed to reduce pain during labor do not work.

True False

174. The condition of hypoxia involves a reduction in the flow of oxygen.

True False

175. By definition, any infant born weighing less that 4 pounds is considered extremely low birth weight.

True False

176. The first 22 pairs of chromosomes are called _____.

_____

177. DNA is short for _____ acid.

_____

178. When each member of a pair of alleles produces a different outcome, the alleles are classified as _____.

_____

179. A(n) _____ allele is ignored when it is combined with a dominant allele.

_____

180. An individual with phenylketonuria is born without a key _____ enzyme required for normal development.

_____

181. Fraternal twins are also called _____ twins.

_____

182. When a child deliberately seeks an environment that fits their heredity they are engaging in _____.

_____

183. The portion of the zygote that will eventually develop into the baby is called the _____.

_____

184. The _____ layer of the zygote forms the digestive system and lungs.

_____

185. The _____ is designed to cushion the developing embryo and to help it maintain a constant temperature.

_____

186. The point at which a fetus has a chance to survive if it were to be born is called the age of _____.

_____

187. Any substance that causes abnormal prenatal development is classified as a(n) _____.

_____

188. _____ sampling is a procedure in which a tissue sample is taken from the placenta.

_____

189. The moment at which the baby's head first appears at the vaginal opening during birth is called _____.

_____

190. A newborn weighing less than 1500 grams but at least 1000 grams is classified as _____ birth weight.

_____

191. A new genetic disorder called “Blumberg's disease” is found to involve heterozygous alleles, is recessive, and is characterized by incomplete dominance. Please discuss the implications of this description concerning the inheritance of this disorder.

192. Describe any two genetic disorders that involve abnormal chromosomes. Be sure to both identify the exact chromosomal aberration and the impact of the aberration on development.

193. The text indicates that “the behavioral consequences of genetic instructions depend on the environment in which those instructions are implemented,” “genes can influence the kind of environment to which a person is exposed,” and “environmental influences typically make children within a family different.” Please describe a real-life example illustrating each of these principles.

194. Jen is 20 years old, pregnant, eats well, but is under a lot of stress. Her friend Angelina, who is also pregnant, is 42 years old, has a very poor diet, but is under little stress. What prediction could you make concerning the postbirth health of each of these women's babies?

195. Please identify one disease, one drug, and an environmental hazard that is known to negatively impact prenatal development. Be sure to describe the specific impact of each teratogen.

196. Identify and describe any three principles that govern how teratogens impact development.

197. Beth is 12 weeks pregnant and is concerned that her fetus may have a genetic disorder. Please describe two techniques that a physician could use to determine whether Beth's concerns are warranted (i.e., does her fetus have a genetic disorder?). Also discuss how fetal medicine could be used to deal with a disorder if one is identified.

198. Describe the three basic stages of childbirth.

199. Your friend Ming Lee is currently pregnant and is attempting to learn about common birth complications and whether or not homebirth is a good option for her. She is 25 years old, in good health, and this is her first child. Please help her by first describing any two birth complications. Then discuss why a home delivery may be a viable option in her case.

200. At risk birth status is tied to both length of gestation (i.e., number of weeks in mom) and weight at birth. Demonstrate your awareness of key related concepts by discussing the concepts of prematurity, low birth weight, and extremely low birth weight.

201. Describe why in vitro fertilization and eugenics represent controversial issues in human development.

202. Compare and contrast development during the zygotic period with development during the embryonic period.

Chapter 2--Biological Foundations: Heredity, Prenatal Development, and Birth Key

1. You are currently experiencing severe pain in your leg and go to your physician for a checkup. During the examination your physician says, “The pain you are experiencing appears to be due to misshapen blood cells that are blocking the flow of oxygen to your leg.” This would indicate that the most accurate diagnosis of your condition would be

   A. cerebral palsy.
   B. Huntington's disease.
   C. sickle-cell disease.
   D. hemophilia.

2. The threadlike structures in the nucleus of a cell that contain genetic material are called

   A. chromosomes.
   B. germ discs.
   C. ectoderms.
   D. phenotypes.

3. If you were looking through a microscope at a normal sperm cell, you should see _____ chromosomes.

   A. 2
   B. 22
   C. 23
   D. 46

4. The first _____ pairs of chromosomes are called autosomes.

   A. 2
   B. 10
   C. 22
   D. 46

5. Igor is approached by a mad scientist who says he will pay Igor either $100 for each pair of his autosomes or $500 for each pair of his sex chromosomes. Assuming Igor wants to make as much money as possible, which offer should he take?

   A. $100 for each pair of autosomes
   B. $500 for each pair of sex chromosomes
   C. Either one, because Igor will make the same amount with both offers
   D. Neither one, because unfortunately humans have neither autosomes nor sex chromosomes

6. When looking through a microscope at an entire set of human male chromosomes, how would you be able to differentiate an autosome pair from a sex chromosome pair?

   A. The sex chromosome pair would be about 10 times larger than the autosome pair.
   B. The circular-shaped cells would be the autosomes and the square shapes would be the sex chromosomes.
   C. There would be 3 cells in the autosome “pair” and 2 cells in the sex chromosome “pair.”
   D. The shape of the sex chromosomes would differ, whereas each autosome pair would look identical.

7. A sperm cell contains a total of 22

A. genes
B. chromosomes.
C. autosomes.
D. sex cells.

8. What combination would result in a boy?

A. a 17th pair of chromosomes with one X and one Y
B. a 23rd-pair of chromosomes with one X and one Y
C. a17th pair of chromosomes with two Xs
D. a 23rd-pair of chromosomes with two Xs

9. How many DNA molecules are typically contained in each human chromosome?

A. 1
B. 46
C. 468
D. 100,000

10. Thymine and cytosine are types of

A. genes.
B. the first neurotransmitters produced in the brain.
C. autosomes.
D. the basic chemical compounds that form the double helix of a DNA molecule.

11. Human DNA is composed of a total of _____ different nucleotide bases.

A. 4
B. 23
C. 444
D. 30000

12. Genes provide the cell with a specific set of _____ instructions.

A. hormonal
B. biochemical
C. in vitro
D. bioelectric

13. Within a typical human cell, which number is the greatest?

A. the number of chromosomes
B. the number of autosomes
C. the number of genes
D. the number of different types of nucleotide bases

14. Who has created a gene?

A. Tom, who has strung together 4 adenine “beads,” which now instruct the body to produce an enzyme
B. Dick, who has just removed the sex chromosome from a cell
C. Harry, who has just generated a single bead of guanine
D. Sally, who has added an extra chromosome to a fertilized egg

15. The average child has approximately _____ genes.

A. 30
B. 30,000
C. 30,000,000
D. 30,000,000,000

16. Kyoko is 5 feet, 11 inches tall, plays tennis, and is an all-around nice person. This is a description of Kyoko's

A. allele.
B. genotype.
C. homozygosity.
D. phenotype.

17. Genotype is to phenotype as

A. homozygous is to heterozygous.
B. nurture is to nature.
C. DNA is to RNA.
D. chromosome pattern is to facial features.

18. Which is an example of your genotype?

A. your complete set of genes
B. your physical appearance
C. your behaviors
D. your personality

19. Which process can best be explained by alleles?

A. the fact that phenotypes produce genotypes
B. identical twins
C. one gene on chromosome 12 results in red hair while another on the same chromosome instructs the body to produce blonde hair
D. the teratogenic effects associated with fetal alcohol syndrome

20. Homozygous is to heterozygous as

A. same is to different.
B. recessive is to dominant.
C. genotype is to phenotype.
D. many is to few.

21. Linda has one allele for curly hair and another for straight hair. Linda's alleles are

A. polyzygotic.
B. dizygotic.
C. homozygous.
D. heterozygous.

22. Joseph is homozygous for normal blood cells. This means that he

A. is an identical twin.
B. has matching alleles.
C. has recessive alleles.
D. is likely to develop sickle-cell anemia.

23. How would you create an individual who will definitely have blue eyes?

A. Make sure they have a pair of homozygous chromosomes for blue eyes.
B. Make sure they have a pair of heterozygous chromosomes for eye color.
C. Make sure they have a pair of alleles for eye color.
D. Make sure they have 1 recessive gene for blue eyes.

24. Kirk is heterozygous for cheek dimples but is born with big dimples in both cheeks. Apparently, the allele for cheek dimples is

A. dominant.
B. sex-linked.
C. recessive.
D. polygenetic.

25. If a person had a dominant allele for blonde hair and a recessive allele for red hair, the probability of that person having red hair would be closest to

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

26. If tallness is dominant and designated as "T" and shortness is recessive and designated as "s," who would likely be short?

A. Bing, who is "sT"
B. Crosby, who is "Ts"
C. Danny, who is "ss"
D. Kay, who is "TT"

27. If obesity is dominant and designated as "O" and thinness is recessive and designated as "t," how many of the following individuals would likely be obese: Ginger who is "OO," Mary Ann who is "Ot," Thurston who is "tO," Gilligan who is "tt"?

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

28. Which best exemplifies the concept of genetic incomplete dominance?

A. an individual with two alleles for baldness who has long hair
B. an individual with two alleles for shyness who is shy
C. an individual with one allele for obesity and another for thinness who is of average weight
D. an individual with a single allele for aggression who is violent

29. Which statement concerning the sickle-cell trait is true?

A. Individuals with the trait have the dominant phenotype but possess the recessive genotype.
B. Individuals with the trait have both a dominant and recessive allele for the disorder.
C. Individuals with the trait are genetically predisposed to the disorder but cannot display any symptoms.
D. Individuals with the trait tend to have the most severe form of the disease.

30. Dr. Fry has just been informed that his son has sickle-cell trait. As a knowledgeable physician Dr. Fry would realize that his son's body is most likely to experience

A. excess levels of body fat
B. serious oxygen deprivation
C. decreased lung capacity
D. blindness

31. What should Danko do when he is informed that his newborn son has PKU (phenylketonuria)?

A. panic, since PKU is an incurable genetic disorder that results in severe mental retardation
B. don't panic, since PKU can be cured with drug treatments
C. don't panic, since PKU is a sex-linked disorder that affects only females
D. don't panic, since despite being a genetic disorder, it can be controlled through proper diet (avoiding certain foods)

32. Janaka's two-year-old daughter is mentally retarded due, in part, to a diet that included fish, bread, and dairy products. The most likely diagnosis for Janaka's daughter is that she has

A. Turner's syndrome.
B. Huntington's disease.
C. Tay Sachs disease.
D. PKU.

33. Disease X is caused by a dominant allele and results in death prior to age three. The good news about Disease X is that

A. it will not last long in the gene pool and will eventually disappear.
B. it can only be passed along from a father to a son.
C. as a dominant allele disorder it will always skip a generation.
D. only half of the individuals who inherit the Disease X allele will actually get the disease.

34. Huntington's disease is an unusual genetic disorder in that it is a fatal disease caused by dominant alleles that

A. impact late enough in life so that the individual can reproduce.
B. are controllable through diet.
C. both must come from mom.
D. strike only males.

35. _____ is characterized by progressive degeneration of the nervous system.

A. Huntington's disease
B. Down syndrome
C. Phenylketonuria
D. Sickle-cell trait

36. Which physical characteristic is most indicative of an individual with Down syndrome?

A. enlarged head
B. fold of skin over the eyelid
C. small tongue
D. taller than age peers

37. Following a prenatal exam, your physician remarks, “It appears as if your fetus has 47 chromosomes.” What would be the most likely response to this information?

A. concern, as this may indicate that your child has Down syndrome
B. concern, as this may indicate that your child has sickle-cell anemia
C. concern, as this may indicate that your child has PKU
D. relief, since this is a normal number of chromosomes

38. Which maternal characteristic is most strongly associated with giving birth to a baby with Down syndrome?

A. low levels of intelligence (i.e., mental retardation)
B. consumption of alcohol
C. old age
D. exposure to lead or mercury

39. “Tri-somy 21” (three 21st chromosomes) best describes

A. Huntington’s disease.
B. Down syndrome.
C. PKU.
D. sickle-cell trait.

40. Because of his accurate knowledge of genetics and disorders, Benson knows that his newborn son has no chance of having

A. Turner’s syndrome.
B. Kleinfelter’s syndrome.
C. Huntington’s disease.
D. Down syndrome.

41. Which combination of sex chromosomes is *not* possible in a living human being?

A. a single X chromosome
B. XXY
C. XYY
D. a single Y chromosome

42. As a behavioral geneticist, Juan would most likely be studying

A. the maze learning behavior of rats.
B. the evolution of intelligence.
C. a gene that is believed to cause shyness.
D. the physiological structure of a gene.

43. Which statement best exemplifies the basic premise of behavioral genetics?

A. “your personality all in your genes”
B. “your personality all in your environment”
C. “people are either very open to new experiences or avoid new experiences at all costs”
D. “openness to new experience is not an either or proposition but represents a wide range of reactions”

44. If a physician informed you that your speech disorder was the result of problems on chromosomes 4, 7, and 15, you would rightly conclude that the disorder is always classifiable as

A. recessive.
B. polygenetic.
C. dominant.
D. sex-linked.

45. If the four dominant alleles for intelligence are WXYZ and the recessive alleles for intelligence are wxyz, which of the following would be the most common inheritance pattern?

A. WWwwYYyy
B. WWxXyYZZ
C. WWXXYYZZ
D. WwxxYYzZ

46. John and Wayne have the same genes. This indicates that they must be

A. dizygotic twins.
B. monozygotic twins.
C. heterozygous.
D. co-dominant.

47. As dizygotic twins, Jewel and Bjork

A. are genetically identical.
B. must have come from the same fertilized egg.
C. share all phenotypes.
D. share about half of their genes.

48. Monozygotic is to dizygotic as

A. one mother is to two mothers.
B. one egg is to two eggs.
C. dominant is to recessive.
D. heterozygous is to homozygous.

49. José, who was adopted at birth, is found to have personality characteristics more similar to his biological mom than to his adoptive mom. How should you interpret this data?

A. Personality appears to be a polygenetic characteristic.
B. Personality characteristics are learned.
C. Personality characteristics are influenced by genes.
D. Personality characteristics appear to be recessive.

50. Which results would *not* support the idea that genes play a significant role in behavior?

A. finding dizygotic twins to be more similar than monozygotic twins
B. finding children to be more similar to their biological parents than to their adoptive parents
C. finding similarities between biological siblings
D. finding monozygotic twins to be more similar than pairs of unrelated individuals

51. Dr. Smith has found that a certain genotype for depression may result in a wide variety of phenotypes, depending on environmental factors. In other words, this genotype

A. has a large reaction range.
B. is polygenetic.
C. is sex-linked.
D. is heterozygous for many traits.

52. What factor would play the largest role in determining the initial reaction range for any behavior?

A. available environments
B. personal motivation
C. genetics
D. arousal level

53. The concept of range of reactions involves the fact that

A. dizygotic twins are virtually genetically identical.
B. each genotype can produce a variety of phenotypes.
C. recessive genes are more commonly expressed than dominant genes.
D. the environment has little impact on behavior.

54. Despite being raised in two very different environments, identical twins Tina and Gina receive a similar score on a shyness scale. These results suggest that the reaction range for shyness is

A. small.
B. large.
C. inverse.
D. polygenetic.

55. Genes and environments

A. interact dynamically throughout development.
B. act independently throughout development.
C. interact dynamically in childhood and independently in adulthood.
D. act independently in childhood and interact dynamically in adulthood.

56. As a behavioral geneticist, Professor Klink is most likely to calculate the extent to which depression is inherited using a _____ coefficient.

A. nonshared
B. DNA
C. polygenetic
D. heritability

57. A heritability coefficient of _____ means about 50% of the difference between people on a specific characteristic is the result of heredity.

A. .5
B. 5
C. 50
D. 500

58. A heritability coefficient is a derivation of a(n)

A. t-test.
B. analysis of variance.
C. correlation.
D. chi-square.

59. ____ occurs when an individual intentionally seeks out an environment that matches characteristics driven by their genes.

A. Passive gene-environment interactions
B. Incomplete dominance
C. Niche-picking
D. Polygenetic inheritance

60. Which individual with a genetic predisposition toward being extroverted is demonstrating successful niche-picking?

A. Wink, who is a game-show host
B. Wilbur, who is a horse trainer
C. Sebastian, who is a hermit who lives in a cave by himself
D. Dexter, who spends a lot of time studying in the library

61. Nonshared environmental influences involve forces that make siblings

A. act in virtually identical ways.
B. homozygous.
C. dizygotic twins.
D. different from one another.

62. Jack and Jill are twins. Because he is a boy, Jack's dad and mom encourage him to run. On the other hand, Jack's mom and dad discourage Jill from engaging in athletic activity. As a result, Jack is much faster at running up a hill than Jill. The difference in Jack and Jill's behavior is best explained by

A. nonshared environmental influences.
B. active gene-environment relations.
C. polygenetic effects.
D. niche-picking.

63. Which statement is true?

A. environmental influences within a family typically make children within a family different
B. genes cannot influence the kind of environment to which a person is exposed
C. behavioral consequences of genetic instructions are independent from environmental factors
D. the impact of environment on heredity wanes with age

64. Which is *not* considered part of prenatal development?

A. fetal period
B. zygote period
C. neonatal period
D. embryonic period

65. Prenatal development begins

A. with sperm production.
B. with ovulation.
C. at conception.
D. at implantation into the uterus.

66. The period of the _____ lasts for approximately 2 weeks.

A. embryo
B. zygote
C. fetus
D. neonate

67. The uniting of the egg and sperm (conception) typically takes place in the

A. uterus.
B. testes.
C. Fallopian tube.
D. ovary.

68. If Agnieszka found out that she was conceived through in vitro fertilization, she would know for certain that

A. she was conceived in a petri dish.
B. she was conceived inside a fallopian tube.
C. her biological parents were not the same as the parents who reared her.
D. the woman who carried her as a baby was not the woman who reared her.

69. Which event occurs following in vitro fertilization?

A. A fertilized egg is placed directly into the uterus.
B. A sperm is injected directly into the fallopian tube.
C. A fertilized egg is directly placed in the ovary.
D. A single sperm is injected directly into a fertilized egg.

70. Which statement concerning in vitro fertilization is *false*?

A. The odds of having twins or triplets may increase.
B. About 90% of in vitro fertilization attempts are successful.
C. The procedure is not typically covered by insurance.
D. There is an increased risk of birth defects in infants conceived using the procedure.

71. Whose behavior best exemplifies eugenics?

A. Dr. Green, who uses an in vitro fertilization technique
B. Dr. Black, who allows only certain individuals to mate in an effort to build a master race
C. Dr. White, who studies the effects of thalidomide on prenatal development
D. Dr. Brown, who closely monitors the nutrition of expecting mothers

72. The period of the zygote begins with

A. ovulation.
B. ejaculation.
C. implantation.
D. fertilization.

73. A developing human being that is traveling from a fallopian tube to the uterus would most accurately be described as a(n)

A. embryo.
B. fetus.
C. zygote.
D. amnion.

74. What began as a single fertilized egg has just separated into two distinct eggs. The indicates the formation of _____ twins that has occurred during the _____ period of development.

A. fraternal; zygotic
B. fraternal; embryonic
C. identical; zygotic
D. identical; embryonic

75. The point at which a zygote burrows into the uterine wall is referred to as

A. fertilization.
B. implantation.
C. niche-picking.
D. dilation.

76. A physician has just informed pregnant Moesha that the human organism developing inside of her has just begun to show differentiationof its cells. As a knowledgeable student you would know that such an organism is technically call a(n)

A. embryo
B. zygote
C. fetus
D. neonate

77. Pregnant Patty's body is currently experiencing the event that triggers hormonal changes that will prevent further menstruation. This event is called

A. implantation.
B. conception.
C. dilation.
D. effacement.

78. The _____ is the cluster of cells in the center of the zygote that will eventually develop into the body.

A. amnion
B. stem cell
C. germ disc
D. placenta

79. I am the structure through which a mom and an embryo exchange waste and nutrients. I am called the

A. amnion.
B. stem cell.
C. germ disc.
D. placenta.

80. The developing human organism that has just become completely embedded in the wall of the uterus is called the

A. amnion.
B. fetus.
C. zygote.
D. embryo.

81. At five weeks after conception, a developing human is most accurately called a(n)

A. embryo
B. zygote
C. fetus
D. neonate

82. Hair and the nervous system develop during the embryonic period from cells contained in the _____ layer.

A. mesoderm
B. endoderm
C. placenta
D. ectoderm

83. Damage to cells in the embryo's _____ layer would be most likely to result in the development of a defective digestive system.

A. endoderm
B. placenta
C. ectoderm
D. mesoderm

84. Dr. Proctor tells Uma that her developing embryo is showing distortions in the development of its circulatory system. As a knowledgeable student of human development, Uma should realize that the problem is within cells of the _____ layer.

A. placenta
B. mesoderm
C. ectoderm
D. endoderm

85. Ectoderm is to endoderm as

A. heterozygous is to homozygous.
B. fraternal is to identical.
C. outer is to inner.
D. bone is to muscle.

86. Muscle and bones develop during the embryonic period from cells contained in the _____ layer.

A. mesoderm
B. endoderm
C. placenta
D. ectoderm

87. While observing a special monitor, a physician tells an expectant mother, “As you can see, the legs and arms have just begun to emerge.” From this description, you should realize that the two are looking at a(n)

A. zygote.
B. fetus.
C. embryo.
D. germ disc.

88. The sac in which the embryo resides is called the

A. ectoderm.
B. amnion.
C. germ disc.
D. placenta.

89. One key purpose of the amniotic fluid is to

A. provide the embryo with nutrients.
B. stimulate development of neurotransmitters.
C. screen the flow of blood between mom and embryo.
D. maintain a constant temperature for the embryo.

90. The _____ houses the blood vessels that join the embryo and its mother.

A. umbilical cord
B. amnion
C. germ disc
D. mesoderm

91. The placenta

A. directly connects the blood stream of the embryo to the blood stream of the mother.
B. contains amniotic fluid.
C. helps the fetus to maintain a constant temperature.
D. allows for an exchange of nutrients and waste.

92. The fact that the embryonic head develops before the body illustrates the _____ principle.

A. cephalocaudal
B. incomplete dominance
C. proximodistal
D. niche-picking

93. A doctor could best illustrate the proximodistal principle by discussing the fact that

A. male fetuses develop faster than female fetuses.
B. identical twins tend to be smaller than fraternal twins.
C. the outside portion of amniotic sac is thicker than the inside portion.
D. a baby can control its shoulder before it can control its fingers.

94. During prenatal development the arm develops before the fingers. This most illustrates the _____ principle.

A. Premack
B. coefficient
C. cephalocaudal
D. proximodistal

95. Which organism can truthfully state, “It is during my time that all body parts and organs are first put into place?”

A. the neonate
B. the zygote
C. the fetus
D. the embryo

96. Marsha's doctor informs her that her child is just entering the longest period of prenatal development. About how long has Marsha been carrying her unborn child?

A. 1 day
B. 3 weeks
C. 9 weeks
D. 28 weeks

97. Which event signals the beginning of the period of the fetus?

A. the first beat of the heart
B. the first neural activity in the neocortex
C. the formation of bone from cartilage
D. the attachment of the umbilical cord to the placenta

98. Which event marks the start of the fetal period of development?

A. implantation into the uterus
B. initial formation of internal organs
C. emergence from the Fallopian tube
D. cartilage begins to form into bone

99. Which statement concerning the cerebral cortex is *false*?

A. It develops during the embryonic period.
B. It is wrinkled in texture.
C. It regulates important behaviors.
D. It is also known as the germinal disc.

100. The thick, greasy" substance that covers the fetus around 5 to 6 months after conception is called

A. placenta.
B. vernix.
C. amnion.
D. endoderm.

101. Currently, the earliest "age of viability" occurs around _____ weeks after conception.

A. 14
B. 22
C. 30
D. 38

102. Which best describes the main finding of DeCasper and Spence's (1986) study in which pregnant mothers read the story *The Cat in the Hat*?

A. Prior to birth the fetus begins to mimic the sounds their mothers make.
B. After birth the infants appeared to recognize the rhythm at which their mother has read a story.
C. After birth infants showed no reaction when they once again heard a story that had been read by their mother before they were born.
D. After birth infants who had been read to began to speak at an earlier age than a control group that had not been read to.

103. Just after the birth of her son Nelly, mom Kelly was informed that little Nelly's neural tube did not properly close during his prenatal development. This would mean that Nelly will be diagnosed with

A. spina bifida.
B. muscular dystrophy.
C. cerebral palsy.
D. sickle-cell anemia.

104. A knowledgeable nutritionist would tell a pregnant mother that in order to reduce the risk of having a baby born with spina bifida, mom needs to make sure that she is ingesting an adequate amount of

A. vitamin A.
B. iron.
C. vitamin E.
D. folic acid.

105. Maternal stress is most likely to negatively impact a developing embryo/fetus when that stress is

A. intermittent and extreme.
B. intermittent and moderate.
C. chronic and extreme.
D. chronic and moderate.

106. The main reason why teenage mothers tend to give birth to less healthy infants than mothers in their 20s is that the teens

A. tend to neither seek nor receive good prenatal care.
B. take too many vitamins.
C. have more genetically defective eggs.
D. are more likely to smoke while pregnant.

107. Halley is 40 years old and she and her daughter Berry, 20, are both currently pregnant. Which statement concerning these two mothers is most accurate?

A. Berry has a greater risk of giving birth to a baby with sickle-cell anemia.
B. Halley is twice as fertile as Berry.
C. Berry's odds of having a baby with Down syndrome are 3 times higher than Halley's.
D. Halley has a greater risk of having a miscarriage.

108. A teratogen is any agent that

A. increases the likelihood of abnormal prenatal development.
B. enhances the flow of oxygen across the placental barrier.
C. decreases the chances of having a child with a genetic disorder.
D. inhibits the impact of drugs on the developing embryo.

109. Whose mother most likely took thalidomide while pregnant?

A. Dean, who has a heart defect
B. Martin, who has deformed arms and legs
C. Jerry, who is deaf
D. Lewis, who is severely mentally retarded

110. How many of the following are potential teratogens: aspirin, nicotine, cocaine, caffeine?

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

111. What effect is *not* associated with fetal alcohol syndrome?

A. slow growth
B. mental retardation
C. blindness
D. misshapen face

112. Bryant’s teachers notice that Bryant has unusual facial features (i.e., short nose and wide-set eyes) and shows signs of mental retardation. Due to her training in developmental psychology, Bryant’s teacher realizes that Bryant’s mom likely _____ while she was pregnant.

A. consumed alcohol
B. injected heroin
C. smoked marijuana
D. consumed an excessive amount of caffeine

113. A woman who consumes alcohol _____ has the greatest risk of giving birth to a baby with fetal alcohol syndrome.

A. lightly and sporadically
B. moderately and sporadically
C. lightly and consistently
D. moderately and consistently

114. Both AIDS and genital herpes

A. can be passed along to an infant as they pass through the birth canal.
B. typically result in blindness.
C. cannot be transmitted to a fetus through the placenta.
D. can be eliminated by maternal inoculation.

115. Research on prenatal exposure to video display terminals (VDTs) has indicated that

A. the most likely impact involves mental retardation.
B. VDT exposure has more impact on mom than fetus.
C. VDTs can safely be used by pregnant women.
D. the radiation levels of VDTs are similar to those of a common X-ray.

116. Which statement concerning teratogens is false?

A. They impact different genotypes differently.
B. They impact specific aspects of development.
C. Their effects may not emerge until later in life.
D. Their effects are the same regardless of the time when the individual is exposed.

117. The key lesson learned by the fact that thalidomide showed no impact when tested on prenatal rabbits but led to birth defects in prenatal humans is that

A. teratogens impact different genotypes differently.
B. teratogens impact specific aspects of development.
C. teratogen effects may not emerge until later in life.
D. teratogen effects are the same regardless of the time when the individual is exposed.

118. What was the most critical lesson about teratogens learned from studies on the use of the drug DES by pregnant women?

A. Sometimes what appear to be teratogens actually are harmless drugs.
B. Infants in the late fetal period appear to be the most at risk for impact from drug-related teratogens.
C. Sometimes the effects of teratogens are not apparent until long after exposure.
D. Females appear to be at much greater risk from teratogens.

119. Exposure to a teratogen during the _____ period is most likely to result in a spontaneous abortion.

A. implantation
B. zygotic
C. embryonic
D. fetal

120. As there is a history of hereditary disease in the families of Archie and Veronica, they have arranged a meeting with a specialist at which a family tree concerning the odds of them having a child with a birth defect will be constructed. This event would most accurately be described as

A. amniocentesis.
B. chorionic villus sampling.
C. teratogenic.
D. genetic counseling.

121. Claire is very concerned about the prebirth position of the child she is carrying. Which technique would be the best for determining whether Claire's concerns are warranted?

A. genetic counseling
B. ultrasound
C. chorionic villus sampling
D. amniocentesis

122. Which prenatal assessment technique results in a picture of the fetus?

A. genetic screening
B. ultrasound
C. chorionic villus sampling
D. amniocentesis

123. The sample taken during an amniocentesis comes from

A. the lining of the uterus.
B. inside the body of the fetus.
C. fluid surrounding the fetus.
D. the umbilical cord.

124. Regan is a medical student who is learning a procedure in which a long needle is inserted into the abdomen of a pregnant woman. What technique is he most likely learning?

A. genetic counseling
B. amniocentesis
C. chorionic villus sampling
D. ultrasound

125. Mia and her doctor need to know as quickly as possible (hopefully within 24 hours) whether the child she has been carrying for only 9 weeks possesses any genetic abnormalities. Which technique is Mia's doctor most likely to employ?

A. chorionic villus sampling
B. ultrasound
C. amniocentesis
D. genetic counseling

126. Troy is very interested in the field of fetal medicine. Given this, he would most likely be fascinated by a book titled

A. *Afterbirth Care and You.*
B. *The Benefits of Healthy Eating Before Pregnancy.*
C. *Fixing Birth Defects Before Birth.*
D. *The Importance of Childhood Inoculations.*

127. Physicians are currently able to correct spina bifida at around seven to eight months after birth using

A. genetic engineering.
B. fetal surgery.
C. chorionic villus sampling.
D. ultrasound.

128. The process in which defective cells in the body are replaced with cells that have had the genetic defect “repaired” is called

A. amniocentesis.
B. genetic engineering.
C. genetic screening.
D. niche-picking.

129. Because it involves prolonged physical effort, the process of childbirth is often referred to as involving stages of

A. labor.
B. parturition.
C. travail.
D. pursuit.

130. By the time Debbie got to the hospital to deliver her child, the child had entered the vagina opening. This means that Debbie was in the _____ stage of labor.

A. first
B. second
C. third
D. fourth

131. When her physician mentions the term “crowning,” Erica, who is giving birth, should realize that means that her

A. cervix has just fully dilated.
B. uterine contractions are about to start.
C. baby's head has just reached the vaginal opening.
D. placenta is about to be delivered.

132. Which is expelled during afterbirth?

A. fetus
B. placenta
C. cervix
D. ova

133. Wilma is afraid of the pain involved in delivering her baby. Are childbirth classes likely to help her?

A. Yes, because women who take these courses report experiencing less pain than women who don't.
B. Yes, because women who take these courses qualify for painkilling medications they would not usually receive.
C. No, because childbirth courses only make people more knowledgeable about the birthing process and can have no effect on pain.
D. No, because individuals who know most about the birthing process experience the most pain.

134. Which is *not* a typical childbirth class technique for reducing the pain associated with delivery?

A. Teach deep breathing to reduce muscle tension.
B. Teach visual imagery focusing on pleasant scenes or experiences.
C. Teach a "coach" to attend to mother and help her cope with pain.
D. Teach that medications have no place in the delivery room.

135. During childbirth, who would most likely and most properly be referred to as a "doula?"

A. the doctor
B. the birthing coach
C. the mother
D. the newborn baby

136. For healthy pregnant women,

A. home and hospital delivery carry the same birth defect risk.
B. hospital delivery is safer than home delivery.
C. home delivery is safer than hospital delivery.
D. the home delivery versus hospital delivery risk factors are unknown.

137. Postpartum depression

A. occurs in about 50% of new mothers.
B. is more common following planned pregnancies than unplanned pregnancies.
C. is a purely psychological phenomenon (i.e., has no physiological basis).
D. may be reduced via breast-feeding.

138. After learning that his newborn son's birth involved hypoxia, Sven (a knowledgeable nurse) would most likely ask,

A. "How long until my wife's scar heals?"
B. "How long was the cord wrapped around his neck?"
C. "Did the cervix ever dilate?"
D. "Is such a premature birth normal?"

139. How is a physician most likely to guard against fetal hypoxia?

A. Monitor the fetus' heart rate.
B. Avoid exposing the fetus to tainted blood.
C. Encourage mom to deliver vaginally.
D. Conduct a genetic screen of mom and dad.

140. A C-section is best thought of as

A. vaginal childbirth.
B. a technique for determining possible birth defects in an embryo.
C. a common form of teratogen.
D. the surgical removal of a fetus.

141. Mona has decided to have a c-section rather than a vaginal delivery. While this decision will reduce some risks it will increase the risk of

A. hypoxia.
B. spina bifida.
C. maternal infection.
D. low birth weight.

142. By definition, premature infants are born prior to _____ weeks after conception.

A. 42
B. 40
C. 38
D. 36

143. The cutoff between normal and low birth weight is about _____ pounds.

A. 7.7
B. 5.5
C. 3.3
D. 2.2

144. Because her birth weight was 1200 grams (about 3 pounds), Kia would be correctly classified as having a(n) _____ birth weight.

A. normal
B. low
C. very low
D. extremely low

145. Born 39 weeks after conception, Sasha weighs in at 900 grams (around 2 pounds). Given this information, Sasha is best defined as

A. full-term and normal birth weight.
B. preterm and normal birth weight.
C. preterm and very low birth weight.
D. preterm and extremely low birth weight.

146. Jamal was born 34 weeks after he was conceived and weighed 6 pounds. Jamal is best described as

A. full-term and normal birth weight.
B. preterm and normal birth weight.
C. full-term and low birth weight.
D. preterm and low birth weight.

147. Werner's (1989, 1995) longitudinal study on Hawaiian children indicated that problems associated with low birth weight

A. were typically lifelong.
B. had no impact on social or cognitive abilities.
C. were only found in males.
D. could be overcome if the child was raised in a stable family environment.

148. Infant mortality rate is defined as the percentage of infants who die

A. before birth.
B. during birth.
C. before their first birthday.
D. before their second birthday.

149. Which parent should most realistically fear her child dying before reaching their first birthday?

A. Alfie, who is in Afghanistan
B. Charleene, who is in the Czech Republic
C. Fran, who is in Finland
D. Jen, who is in Japan

150. Low birth weight can most effectively be prevented through

A. regular prenatal care.
B. avoiding teratogens.
C. maternal inoculations.
D. chorionic villus sampling.

151. A typical fertilized egg contains a total of 22 pairs of chromosomes.

FALSE

152. Your phenotype includes physical, psychological, and behavioral features.

TRUE

153. When the chromosomes in a pair are the same they are said to be heterozygous.

FALSE

154. Individuals with sickle-cell trait must carry both recessive alleles in order to display symptoms.

FALSE

155. While characterized as a progressive and fatal disorder, symptoms of Huntington's disease can be eliminated through a special diet.

FALSE

156. Monozygotic twins come from a single egg.

TRUE

157. According to the range of reaction model, a genotype can produce only one reaction.

FALSE

158. A heritability coefficient is used to calculate the extent to which a characteristic is the result of genetics.

TRUE

159. Nonshared environmental influences tend to make siblings in a family more similar to each other.

FALSE

160. The correct order of prenatal development is zygote to embryo to fetus.

TRUE

161. In vitro fertilization takes place in a test tube.

FALSE

162. Implantation occurs when the zygote burrows into the placenta.

FALSE

163. Hair and skin originally develops in the ectoderm layer of a zygote.

TRUE

164. The embryo is connected to the uterus via the Fallopian tube.

FALSE

165. Cephalocaudal development proceeds from your extremities toward your body.

FALSE

166. The period of the fetus is the longest period of prenatal development.

TRUE

167. The modern age of viability begins at 16 weeks.

FALSE

168. Pregnant women who fail to consume enough vitamin A are at risk for giving birth to a baby with spina bifida.

FALSE

169. The younger the mother the greater the risk that she will give birth to an infant with Down syndrome.

FALSE

170. Common symptoms of fetal alcohol syndrome include facial deformities, deafness, and mental retardation.

FALSE

171. Damage from teratogens are sometimes not evident until later in life.

TRUE

172. An ultrasound uses sound waves to create an image of a fetus.

TRUE

173. Research has demonstrated that childbirth techniques designed to reduce pain during labor do not work.

FALSE

174. The condition of hypoxia involves a reduction in the flow of oxygen.

TRUE

175. By definition, any infant born weighing less that 4 pounds is considered extremely low birth weight.

FALSE

176. The first 22 pairs of chromosomes are called _____.

autosomes

177. DNA is short for _____ acid.

deoxyribonucleic

178. When each member of a pair of alleles produces a different outcome, the alleles are classified as _____.

heterozygous

179. A(n) _____ allele is ignored when it is combined with a dominant allele.

recessive

180. An individual with phenylketonuria is born without a key _____ enzyme required for normal development.

liver

181. Fraternal twins are also called _____ twins.

dizygotic

182. When a child deliberately seeks an environment that fits their heredity they are engaging in _____.

niche-picking

183. The portion of the zygote that will eventually develop into the baby is called the _____.

germ disc

184. The _____ layer of the zygote forms the digestive system and lungs.

endoderm

185. The _____ is designed to cushion the developing embryo and to help it maintain a constant temperature.

amniotic fluid

186. The point at which a fetus has a chance to survive if it were to be born is called the age of _____.

viability

187. Any substance that causes abnormal prenatal development is classified as a(n) _____.

teratogen

188. _____ sampling is a procedure in which a tissue sample is taken from the placenta.

Chorionic villus

189. The moment at which the baby’s head first appears at the vaginal opening during birth is called _____.

crowning

190. A newborn weighing less than 1500 grams but at least 1000 grams is classified as _____ birth weight.

very low

191. A new genetic disorder called “Blumberg's disease” is found to involve heterozygous alleles, is recessive, and is characterized by incomplete dominance. Please discuss the implications of this description concerning the inheritance of this disorder.

Answer not provided.

192. Describe any two genetic disorders that involve abnormal chromosomes. Be sure to both identify the exact chromosomal aberration and the impact of the aberration on development.

Answer not provided.

193. The text indicates that “the behavioral consequences of genetic instructions depend on the environment in which those instructions are implemented,” “genes can influence the kind of environment to which a person is exposed,” and “environmental influences typically make children within a family different.” Please describe a real-life example illustrating each of these principles.

Answer not provided.

194. Jen is 20 years old, pregnant, eats well, but is under a lot of stress. Her friend Angelina, who is also pregnant, is 42 years old, has a very poor diet, but is under little stress. What prediction could you make concerning the postbirth health of each of these women's babies?

Answer not provided.

195. Please identify one disease, one drug, and an environmental hazard that is known to negatively impact prenatal development. Be sure to describe the specific impact of each teratogen.

Answer not provided.

196. Identify and describe any three principles that govern how teratogens impact development.

Answer not provided.

197. Beth is 12 weeks pregnant and is concerned that her fetus may have a genetic disorder. Please describe two techniques that a physician could use to determine whether Beth's concerns are warranted (i.e., does her fetus have a genetic disorder?). Also discuss how fetal medicine could be used to deal with a disorder if one is identified.

Answer not provided.

198. Describe the three basic stages of childbirth.

Answer not provided.

199. Your friend Ming Lee is currently pregnant and is attempting to learn about common birth complications and whether or not homebirth is a good option for her. She is 25 years old, in good health, and this is her first child. Please help her by first describing any two birth complications. Then discuss why a home delivery may be a viable option in her case.

Answer not provided.

200. At risk birth status is tied to both length of gestation (i.e., number of weeks in mom) and weight at birth. Demonstrate your awareness of key related concepts by discussing the concepts of prematurity, low birth weight, and extremely low birth weight.

Answer not provided.

201. Describe why in vitro fertilization and eugenics represent controversial issues in human development.

In vitro fertilization involves conception outside of the body (e.g., in a petri dish). Ethical concerns include parent’s right to select specific traits and the high costs which tend to not be covered by insurance. Eugenics is an effort to improve humans by allowing only certain individuals to mate and pass along genes.

202. Compare and contrast development during the zygotic period with development during the embryonic period.

The zygotic period occurs during the first two weeks following conception. It includes implantation of the zygote into the uterine wall, the development of the germinal disc which will eventually become the body, and the development of the placenta. The period of the embryo lasts from 3 to 8 weeks after conception. During this time layers of tissue (e.g., ectoderm, mesoderm, endoderm) begin to shape the developing organism. This is also the time when all body structures and organs are formed.