Multiple-Choice Questions

1. The average North American newborn measures _____ inches in length.
   A) 14
   B) 16
   C) 20
   D) 24

2. A typical child at 24 months weighs about _____ pounds.
   A) 19
   B) 28
   C) 41
   D) 52

3. The average North American newborn weighs _____ pounds at birth.
   A) 5
   B) 6
   C) 7
   D) 8

4. The average newborn triples his weight by:
   A) 6 months.
   B) 9 months.
   C) 1 year.
   D) 2 years.

5. Children reach half their adult height by the age _____ years.
   A) 2
   B) 3
   C) 4
   D) 6

6. Clara's weight is in the 30th percentile. This means that _____ percent of all babies her age weigh less than she does and _____ percent of all babies her age weigh more than she does.
   A) 30; 70
   B) 20; 80
   C) 70; 30
   D) 80; 20

7. Jordan's weight is in the 50th percentile. This means that:
   A) he weighs 50 percent more than other children his age.
   B) he weighs 50 percent less than other children his age.
   C) the average weight for his age is 50 percent more than his weight.
   D) 50 percent of children his age weigh less than he does.

8. A _____ is a ranking between 0 and 100 that compares children of the same age in order to determine whether a particular baby is growing well.
   A) normal score
   B) standard deviation
   C) percentile
   D) norm

9. Alma brought her six-month-old son to the doctor for a well-baby visit. The doctor says that her son's weight is in the 20th percentile. What does this definitely mean?
   A) He is large for his age.
   B) He is not growing properly.
   C) He is malnourished.
   D) He is small compared to other 6 month olds.

10. Parents are told that their newborn is in the 90th percentile for height. This means that their child is:
   A) above average in height.
   B) below average in height.
   C) average in height.
   D) 90 percent of the desired height for his weight.

11. The human body is equipped to protect the brain when malnutrition temporarily affects body growth. This protective feature is known as:
   A) the blood-brain barrier.
   B) brain-override.
   C) head-sparing.
   D) caudal protection.

12. A newborn's brain weight is _____ an adult's brain weight.
   A) greater than
   B) the same as
   C) 50 percent of
   D) 25 percent of

13. Brain cells are called:
    A) frontal cells.
    B) axons.
    C) dendrites.
    D) neurons.

14. A basic nerve cell in the central nervous system is called a(n):
    A) frontal cell.
    B) axon.
    C) dendrite.
    D) neuron.

15. At birth, the human brain has:
    A) billions of neurons.
    B) trillions of neurons.
    C) 25 percent of its adult neurons.
    D) 50 percent of its adult neurons.

16. The areas at the very front of the cortex:
    A) are responsible for visual functions.
    B) help humans to understand spoken words.
    C) assist with self-control.
    D) are well-developed in newborns.

17. The outer layers of the brain are referred to as:
    A) the cortex.
    B) axons.
    C) dendrites.
    D) synapses.

18. The last part of the brain to mature is the:
    A) axons.
    B) dendrites.
    C) synapses.
    D) prefrontal cortex.

19. Which statement describes the brain's cortex?
    A) It is found in the center of the brain and is responsible for primitive emotions and reflexes.
    B) It makes up a small percentage of the outer brain and is responsible for movement.
    C) It makes up the outer layers of the brain and is responsible for thinking, feeling, and sensing.
    D) It is the gray matter of the brain where the intersections of dendrites and axons form.

20. The area in the brain that plans, anticipates, and controls impulses is the _____ cortex.
    A) prefrontal
    B) parietal
    C) temporal
    D) striate

21. Neurons in the brain meet at "intersections" called:
    A) synapses.
    B) cortexes.
    C) axons.
    D) dendrites.

22. Synapses are:
    A) intersections where the axons of one neuron meet the dendrites of another neuron.
    B) where neurons make direct contact with one another.
    C) chemical structures that allow dendrites to send their messages to axons.
    D) the area where neurons determine whether a stimulus exceeds the absolute threshold or not.

23. The function of neurotransmitters is to:
    A) bind the neurons of the central nervous system together.
    B) form the synapse between neurons.
    C) carry information from one neuron to another.
    D) assist in the formation of new neurons.

24. Dendrite growth is the main reason that brain weight _____ from birth to the age of two.
    A) decreases
    B) doubles
    C) triples
    D) quadruples

25. Brain weight triples in size during first two years of life primarily because of the growth of:
    A) axons.
    B) dendrites.
    C) neurons.
    D) synapses.

26. The brain develops extremely quickly in the first few years, but not all of this growth is permanent. Due to its rapidity and temporary nature, this rapid brain growth is called:
    A) dendrite proliferation.
    B) pruning.
    C) cortex multiplication.
    D) transient exuberance.

27. Transient exuberance is the:
    A) rapid growth of dendrites during the first few years of life.
    B) high energy that toddlers experience following a nap.
    C) friendliness that infants display prior to the onset of stranger wariness.
    D) rapid growth of axons during the first few years of life.

28. The process through which unused and misconnected dendrites atrophy and die is called:
    A) pruning.
    B) degeneration.
    C) transitional exuberance.
    D) myelination.

29. Pruning is the process by which:
    A) brain centers are rewired following localized brain damage.
    B) the left hemisphere specializes for language processing.
    C) the frontal lobe disengages from the prefrontal cortex.
    D) unused connections between neurons are eliminated.

30. From birth until age two, dendrites in the cortex increase:
    A) twofold.
    B) threefold.
    C) fivefold.
    D) tenfold.

31. According to research, increased brainpower is most likely due to:
    A) transient exuberance.
    B) synaptic regeneration.
    C) axonal pruning.
    D) synaptic pruning.

32. A life-threatening condition that occurs when infants are shaken back and forth sharply and quickly is called:
    A) self-righting.
    B) head-sparing.
    C) shaken baby syndrome.
    D) transient exuberance.

33. An abusive caregiver shakes an infant to get her to stop crying. The infant stops crying. Why?
    A) The infant is so startled by the shaking that she can't cry.
    B) Blood vessels in her brain rupture and neural connections break.
    C) Experience has taught her to stop crying.
    D) The infant's airway is damaged.

34. Dominique was an infant with very few toys, but she concocted things to play with out of what was available in her home in order to develop her brain. This is an example of:
    A) transient exuberance.
    B) cognitive independence.
    C) self-righting.
    D) selective attention.

35. An infant's inborn drive to remedy deficits is called:
    A) self-efficacy.
    B) experience-expectant brain functions.
    C) experience-dependent brain functions.
    D) self-righting.

36. Trent is an infant who lacks the toys and videos that promote brain development. He spends much of his day in a playpen with kitchen items for toys, listening to his grandmother sing while his mother works outside the home. In this situation, Trent's brain development will most likely:
    A) proceed normally due to the self-righting tendency.
    B) flourish due to the self-excelling tendency.
    C) be somewhat impaired due to his limited environment.
    D) be extremely impaired due to his limited environment.

37. The part of the brain that seems to be devoted to perceiving faces is the:
    A) prefrontal cortex.
    B) fusiform face area.
    C) countenance perception area.
    D) neurofacial transmitter.

38. Children as young as _____ old exhibit signs of the own-race effect.
    A) 3 months
    B) 9 months
    C) 1 year
    D) 3 years

39. Research found that three year olds _____ were better at recognizing differences in newborn faces.
    A) with older siblings
    B) with younger siblings
    C) who spent time looking at different monkey faces
    D) with broad multiethnic experience

40. Approximately how many hours per day does the average newborn spend asleep?
    A) 13 to 14
    B) 15 to 17
    C) 18 to 19
    D) 20 to 21

41. The dozing, half-awake state often seen in newborns is called:
    A) REM sleep.
    B) paradoxical sleep.
    C) transitional sleep.
    D) postnatal sleep.

42. Slow-wave sleep:
    A) increases significantly at about three or four months of age.
    B) is also known as REM sleep.
    C) is also known as paradoxical sleep.
    D) rarely occurs until two years of age.

43. The signs of REM sleep include flickering of the infant's:
    A) open eyes and rapid brain waves.
    B) closed eyes and rapid brain waves.
    C) open eyes and slow, steady brain waves.
    D) closed eyes and slow, steady brain waves.

44. Co-sleeping may be harmful to the baby if the mother:
    A) is in a fetal position around the baby.
    B) is a light sleeper.
    C) is drugged or drunk.
    D) awakens frequently.

45. Twelve-month-old Emily has slept in her parents' bed since she was born. This custom is called:
    A) co-bedding.
    B) shared sleep.
    C) sleep accommodation.
    D) co-sleeping.

46. In addition to cultural influences, what is a compelling reason that causes parents to choose to co-sleep with their infant?
    A) Co-sleeping makes nighttime feedings easier.
    B) Co-sleeping allows the infant to sleep more deeply for longer periods.
    C) Co-sleeping helps the baby's digestion.
    D) Co-sleeping infants become more independent.

47. The process that first detects an external stimulus is:
    A) perception.
    B) sensation.
    C) interpretation.
    D) cognition.

48. Whenever the eyes, ears, tongue, skin, or mouth detect a stimulus, a(n) _____ has occurred.
    A) perception
    B) interpretation
    C) sensation
    D) response

49. Umar is a newborn is lying awake in his crib. Someone across the room speaks. What is his likely reaction?
    A) Umar won't react at all, because his sense of hearing is not well developed.
    B) If the voice is that of Umar's mother, he will turn in the direction of the voice; otherwise, he will ignore the voice.
    C) Umar will turn his head in the direction of the voice no matter whose voice it is.
    D) Umar will show a startle response and probably cry.

50. You see a beautiful yellow flower while walking through a meadow. Your eyes seeing the flower is a matter of _____. Your brain determining that the flower is yellow is a matter of _____. Imagining how the flower will look in a vase would demonstrate _____.
    A) perception; knowing; cognition
    B) sensation; perception; knowing
    C) perception; sensation; knowing
    D) sensation; perception; cognition

51. The mental processing of sensory information is called:
    A) perception.
    B) sensation.
    C) input.
    D) cognition.

52. Thinking about something that has been perceived is:
    A) sensation.
    B) cognition.
    C) intuition.
    D) knowing.

53. At what point in development is the sense of hearing already quite acute?
    A) at birth
    B) by 3 months of age
    C) by 14 weeks of age
    D) by 6 months of age

54. In terms of visual acuity, newborns:
    A) possess 20/20 vision.
    B) are legally blind.
    C) have binocular vision.
    D) exhibit organized visual scanning.

55. The sense that is the least developed at birth is an infant's:
    A) hearing.
    B) taste.
    C) vision.
    D) smell.

56. The neonate's vision:
    A) is clearest when objects are four to 30 inches away.
    B) is clearest when objects are about 10 feet away.
    C) does not improve until about age one.
    D) is the most developed of the baby's senses.

57. By three months of age, babies look closely at the eyes and mouth when studying faces. This change in focus is due to:
    A) increased interest in other humans.
    B) increased awareness of caregivers' identities.
    C) changes in willingness to interact with adults.
    D) improvements in visual scanning ability.

58. Binocular vision refers to the ability to:
    A) focus on objects at a distance.
    B) bring an object in and out of focus.
    C) focus on an object with both eyes.
    D) visually distinguish between similar colors.

59. Binocular vision appears between _____ months of age.
    A) 2 and 4
    B) 6 and 8
    C) 10 and 12
    D) 14 and 16

60. Due to smell recognition, babies prefer to sleep:
    A) alone in a crib with freshly-washed sheets.
    B) nuzzled into their caregiver's chest.
    C) near a kitchen while food is being prepared.
    D) in the room in which they were born.

61. Newborns' sense of touch allows them to:
    A) determine who is touching them.
    B) be soothed by their caregiver.
    C) feel no pain.
    D) make up for their lack of hearing at birth.

62. The learned ability to move and control some parts of the body is referred to as:
    A) instinct.
    B) facilitation.
    C) motor skill.
    D) reflex.

63. Gross motor skills are:
    A) head motions.
    B) small movements.
    C) large movements.
    D) feet motions.

64. Fine motor skills are:
    A) head motions.
    B) small movements.
    C) large movements.
    D) feet motions.

65. Large movements that coordinate many parts of the body are known as _____ motor skills.
    A) athletic
    B) fine
    C) primitive
    D) gross

66. Small movements made by fingers and toes are known as _____ motor skills.
    A) athletic
    B) primitive
    C) fine
    D) gross

67. Most infants are able to inch forward on their bellies by the age of _____ months.
    A) 5
    B) 8
    C) 10
    D) 12

68. On average, children begin to walk independently at approximately _____ of age.
    A) 6 months
    B) 1 year
    C) 18 months
    D) 2 years

69. Between _____ months of age, most infants can lift their midsections and crawl on "all fours."
    A) 8 and 10
    B) 10 and 12
    C) 12 and 14
    D) 14 and 16

70. Renee is concerned because her son is 13 months old and is starting to walk before learning to crawl. What advice would a pediatrician give to Renee?
    A) She should not let her son continue to walk until he has learned to crawl.
    B) He needs to be tested because this may be a sign of a serious learning disability.
    C) She should wait another month or so to see if he crawls and walks at the same time.
    D) She should not be worried since some babies do not crawl.

71. By _____ months of age, babies can usually sit up unsupported.
    A) 2
    B) 4
    C) 6
    D) 8

72. What three factors contribute to the ability to walk?
    A) muscle strength, parental teaching, practice
    B) brain maturation, parental teaching, muscle strength
    C) parental teaching, practice, brain maturation
    D) muscle strength, brain maturation, practice

73. Aran's mother has been helping him to walk by holding his hands and supporting him. Aran's legs are strong enough to hold him up, and he's able to move his legs in a coordinated way as long as his mother supports him. What else does Aran need in order to walk on his own?
    A) muscle strength
    B) brain maturation
    C) practice
    D) fine motor skills

74. When they practice walking, babies average between _____ steps per hour.
    A) 100 and 300
    B) 200 and 800
    C) 600 and 1200
    D) 500 and 1500

75. Fine motor skills are those that:
    A) develop as a result of brain damage.
    B) require practice.
    C) require small body movements.
    D) use three or more muscles.

76. Behaviors that involve small body movements are known as _____ motor skills.
    A) gross
    B) fine
    C) mature
    D) micro

77. Ann-Marie started walking when she was 10 months old; Cynthia is just beginning to take steps by herself at 13 months. Which conclusion is MOST likely true?
    A) Ann-Marie is very intelligent.
    B) Cynthia is malnourished.
    C) Cynthia is mentally handicapped.
    D) Both girls are developing normally.

78. On average, which skill does an infant develop last?
    A) pulling up onto feet
    B) standing alone without holding on
    C) sitting without support
    D) standing while holding on

79. On average, which skill does an infant develop first?
    A) running
    B) walking backward
    C) walking alone
    D) jumping

80. Baby Sam can grab objects, but sometimes he closes his hand too early or too late. Sam is probably around _____ months old.
    A) 2
    B) 4
    C) 6
    D) 8

81. Most babies learn to grasp and hold onto objects by about _____ months old.
    A) 2
    B) 4
    C) 6
    D) 8

82. Newborns perceive important experiences like breastfeeding:
    A) with dynamic sensory-motor systems.
    B) primarily through fine motor skills.
    C) primarily through the sense of smell.
    D) with practice.

83. At least _____ billion children were born between the years 1950 and 2010.
    A) 4
    B) 5
    C) 6
    D) 10

84. Between 1950 and 2010, more than _____ children died before age 5.
    A) 2 million
    B) 5 million
    C) 2 billion
    D) 5 billion

85. What is one effect of lower infant mortality rates?
    A) Mothers have more babies.
    B) Mothers have fewer babies.
    C) Mothers achieve less education.
    D) National economies are undermined.

86. Clean water, immunizations, and nutritious food have all had a dramatic impact on:
    A) infant and child mortality.
    B) maternal education levels.
    C) population constriction.
    D) rates of violence.

87. When the immune system is primed to resist a particular disease, the process is called:
    A) exuberance.
    B) immunization.
    C) pertussis.
    D) head-sparing.

88. For which illness is an immunization NOT available?
    A) malaria
    B) measles
    C) whooping cough
    D) smallpox

89. The most lethal disease for all children in past centuries was:
    A) polio.
    B) smallpox.
    C) rubeola.
    D) anencephaly.

90. When children are immunized, they contribute to the protection of others. This is referred to as:
    A) community immunity.
    B) vaccinating.
    C) herd immunity.
    D) failure to thrive.

91. A hypothesis that has been repeatedly disproved is that the MMR vaccine cause:
    A) HIV.
    B) schizophrenia.
    C) ADHD.
    D) autism.

92. _____ is the thick, high-calorie fluid that is secreted by a new mother's breasts in the days immediately following birth.
    A) Collodion
    B) Colostrum
    C) Breast milk
    D) Glucose

93. Breast milk:
    A) is deficient in iron and vitamin C.
    B) is more likely than formula to produce allergies.
    C) provides antibodies to fight diseases.
    D) upsets the baby's digestive system more than formula.

94. Why are breast-fed babies less likely to contract infectious diseases than bottle-fed babies?
    A) They are less likely to come in contact with viruses and bacteria.
    B) Breasts are more sterile than bottles.
    C) Breast milk contains antibodies to all the diseases for which the mom has antibodies.
    D) Most breast-fed babies don't leave the home often.

95. Studies comparing breast-feeding to bottle-feeding show that:
    A) breast-fed babies have fewer allergies and stomachaches.
    B) breast-feeding is recommended for about half of all mothers.
    C) recent improvements in formula make bottle-feeding more nutritious than breast milk.
    D) breast-feeding should end as soon as a baby gets a tooth.

96. In the United States, _____ percent of babies are breast-fed at birth, and _____ percent are breast-fed at six months.
    A) 75; 36
    B) 90; 50
    C) 50; 50
    D) 75; 44

97. Shirley returned to full-time employment six weeks after her baby's birth. She exclusively breast-fed during her maternity leave, and then pumped her breast milk when she returned to work. Now her baby is three months old and drinks some formula when at daycare. Shirley wants to stop breast-feeding. If you were a pediatric nurse, what would you say to her?
    A) She can quit breast-feeding since all of its benefits are achieved within the first three months.
    B) She should quit breast-feeding since it is only beneficial if the baby doesn't drink any formula.
    C) She should keep breast-feeding until the baby begins to eat solid foods, which is the point at which breast milk loses its nutritional value.
    D) She should keep breast-feeding as long as possible since breast-fed babies are less likely to get sick.

98. A child who is too short for his or her age due to severe malnutrition is suffering from a condition called:
    A) stunting.
    B) marasmus.
    C) wasting.
    D) protein calorie malnutrition.

99. When a child is more than two standard deviations underweight for his or her age, the child is suffering from a condition called:
    A) stunting.
    B) wasting.
    C) marasmus.
    D) protein calorie malnutrition.

100. Hasan is 2 years old and does not have enough food. As a result, he has unusual swelling in his face and abdomen, and thin, colorless hair. Hasan is suffering from:
    A) kwashiorkor.
    B) marasmus.
    C) rickets.
    D) hypoglycemia.

101. Lyrissa lives in Africa. She is 9 months old and does not weigh enough due to malnutrition. Her life is in danger. Lyrissa suffers from:
    A) rickets.
    B) hypoglycemia.
    C) kwashiorkor.
    D) marasmus.

102. Piaget called an infant's first period of cognitive development:
    A) sensorimotor intelligence.
    B) adaptation.
    C) object awareness.
    D) imitative learning.

103. During the sensorimotor stage, the child's main task is to:
    A) learn to use language to express sensations.
    B) think of past and future events.
    C) use senses and motor skills to understand the world.
    D) think logically and critically.

104. Piaget believed children begin to develop cognitively at:
    A) birth.
    B) 3 months.
    C) 1 year.
    D) 18 months.

105. In Piaget's terminology, sensorimotor stage one is described as:
    A) the stage of reflexes.
    B) making interesting sights last.
    C) first acquired adaptations.
    D) new adaptation and anticipation.

106. In Piaget's terminology, sensorimotor stage two is described as:
    A) the stage of reflexes.
    B) first acquired adaptations.
    C) making interesting sights last.
    D) new adaptation and anticipation.

107. In which of Piaget's sensorimotor stages do infants become aware of things and respond to people and objects?
    A) stage one
    B) stage two
    C) stage three
    D) stage four

108. “Do you want to play patty-cake?” Sofia asks her infant daughter. The baby responds by clapping her hands. In which stage of sensorimotor development is Sofia's baby?
    A) stage one
    B) stage two
    C) stage three
    D) stage four

109. In which of Piaget's sensorimotor stages do infants adapt, anticipate, and become more deliberate in responding to people and objects?
    A) stage one
    B) stage two
    C) stage three
    D) stage four

110. Adriana and her mother have been playing patty-cake, but mother is now trying to engage Adriana in a picture book. Adriana wants to play patty-cake again, so she grabs mother's hands and puts them together as if in a clap. Adriana is clearly in which stage of sensorimotor development?
    A) stage one
    B) stage two
    C) stage three
    D) stage four

111. The first of Piaget's sensorimotor stages that involves an infant's interaction with something else is:
    A) stage one.
    B) stage two.
    C) stage three.
    D) stage five.

112. The behavior of an infant in sensorimotor stage four might best be described as:
    A) deliberate.
    B) experimental.
    C) creative.
    D) anxious.

113. An example of stage-three sensorimotor behavior is:
    A) thumb-sucking and self-soothing.
    B) looking for a smile and smiling back.
    C) searching for a teddy bear hidden under a blanket.
    D) trying to dress like Mommy or Daddy.

114. Sensorimotor stage four is the stage of:
    A) making interesting sights last.
    B) new means through active experimentation.
    C) new means through mental combinations.
    D) new adaptation and anticipation.

115. Baby Hugh enjoys playing with his dad's keys, but when his dad takes them away, Hugh does not search for them. Piaget would say that is because Hugh does not understand:
    A) conservation.
    B) object permanence.
    C) egocentrism.
    D) affordances.

116. _____ is the understanding that objects continue to exist when they cannot be seen.
    A) Object permanence
    B) Acquired adaptation
    C) Mental representation.
    D) Object continuity

117. Object permanence is demonstrated by an infant who:
    A) laughs when a sibling makes faces.
    B) grasps a rattle and bangs it on the floor.
    C) willing lets go of an object.
    D) searches for a toy that has fallen from sight.

118. Piaget referred to toddlers in sensorimotor stage five as:
    A) little heathens.
    B) tertiary infants.
    C) little scientists.
    D) blank slates.

119. According to Piaget, a stage-five sensorimotor baby is like a:
    A) child in the "terrible twos."
    B) neurotic person who cannot take no for an answer.
    C) mime who imitates behavior of all kinds.
    D) scientist who experiments to see what will happen.

120. Tia is fascinated with the toilet. So far, her parents have caught trying to flush a stuffed animal, a toy cell phone, and a handful of dog kibble. Which sensorimotor stage is Tia MOST likely in?
    A) stage 3
    B) stage 4
    C) stage 5
    D) stage 6

121. Piaget's sixth stage of sensorimotor intelligence is known as the stage of:
    A) mental combinations.
    B) interesting observations.
    C) primary reactions.
    D) new adaptation and anticipation.

122. Research indicates that infants reach the stages of Piaget's sensorimotor intelligence _____ Piaget originally predicted.
    A) earlier than
    B) later than
    C) at the same time as
    D) in a different sequence than

123. In one research study, scientists scanned the brains of both a monkey reaching for a banana and another monkey watching that action. The same neurons in a particular region of the brain were activated in both monkeys. These neurons are called _____ neurons.
    A) information processing
    B) mirror
    C) axon
    D) dendrite

124. Which theory compares human thought to the workings of a computer?
    A) behavioral theory
    B) information-processing theory
    C) adaptive theory
    D) Piaget's theory of cognitive development

125. New research on infant long-term memory has shown that infants can remember if the researchers:
    A) use situations that are different from real life.
    B) do not let the baby move during the memory event.
    C) use highly emotional events.
    D) use special measures to aid memory retrieval, such as reminders.

126. Newborns prefer:
    A) their mother's language more than any other language.
    B) animal sounds more than speech.
    C) normal speech more than baby talk.
    D) traffic noises more than music.

127. The usual order of the development of spoken language in an infant is:
    A) cooing, babbling, reflexes, and spoken words.
    B) reflexes, cooing, babbling, and spoken words.
    C) babbling, cooing, spoken words, and reflexes.
    D) cooing, reflexes, babbling, and spoken words.

128. Becky is a four-month-old infant whose mother uses a high-pitched voice, simple words or phrases, and lots of repetition when she speaks. Becky delights in her mother's use of:
    A) long, grammatically correct sentences.
    B) a variety of high and low tones.
    C) child-directed speech.
    D) babbling.

129. Elaine communicates with her new baby using child-directed speech, which is also referred to as:
    A) motherese.
    B) echolalia.
    C) holophrastic speech.
    D) telegraphic speech.

130. The distinct language form known as “baby talk” is a:
    A) verbal collection of facts and myths about having and caring for babies.
    B) teaching technique used to accelerate language acquisition.
    C) simplified language that adults use when talking to babies.
    D) preverbal sound (like “ga ga” and “goo goo”) that mothers often make.

131. Research has found that child-directed speech is:
    A) confined to females; males do not use it.
    B) spoken in a high pitch with simple vocabulary and short sentences.
    C) unique to English-speaking parents.
    D) spoken in a low pitch with the use of nonsense words.

132. Infants' repetition of certain syllables at the age of about six or seven months is called:
    A) cooing.
    B) holophrasing.
    C) gurgling.
    D) babbling.

133. Britta has begun repeating syllables such as “da-da-da-da” and “me-me-me-me-me.” Britta is in the _____ stage of language development.
    A) cooing
    B) holophrasing
    C) gurgling
    D) babbling

134. On average, children begin saying recognizable words at around _____ months of age.
    A) 3
    B) 6
    C) 12
    D) 24

135. Geoff has begun uttering one-word holophrases (e.g. “Dada!”). About how old is Geoff likely to be?
    A) 3 months old
    B) 6 months old
    C) 1 year old
    D) 2 years old

136. The term holophrase is used to denote:
    A) a word that is empty of meaning.
    B) the infant's use of one word to express a whole thought.
    C) the relationship of object permanence to language development.
    D) the use of two words to take the place of one.

137. James uses the word “more” to mean “I want another cookie.” In this case, “more” is a(n):
    A) holophrase.
    B) preverbal communication.
    C) overextension.
    D) reflexive communication.

138. After a child's vocabulary has reached about 50 expressed words, vocabulary will increase by approximately _____ words per month.
    A) 25 to 50
    B) 50 to 100
    C) 100 to 125
    D) 125 to 150

139. As infants acquire language, they say more _____ than any other parts of speech.
    A) nouns
    B) verbs
    C) pronouns
    D) adjectives

140. Bae is a Korean toddler; his cousin Troy is a Korean-American toddler. Bae is learning to speak Korean, while Troy is learning to speak English. What will be the most noticeable difference in Bae's and Troy's use of language?
    A) Bae will use more verbs than Troy does.
    B) Troy will use more verbs than Bae does.
    C) Bae will use adverbs at a younger age.
    D) Troy will use adverbs at a younger age.

141. At approximately what age will a child begin to utter his or her first two-word sentences?
    A) 10 months
    B) 12 months
    C) 18 months
    D) 21 months

142. Abed is an average toddler. His parents can expect him to utter his first multiword sentence around:
    A) 12 months.
    B) 16 months.
    C) 24 months.
    D) 27 months.

143. The use of prefixes, suffixes, intonation, verb forms, pronouns, and other parts of speech is known as:
    A) grammar.
    B) sentence structure.
    C) speech patterns.
    D) syntax.

144. Javier's mother is a native Spanish speaker, and his father is a native English speaker. He hears both languages equally often and is addressed in Spanish by his mother and in English by his father. If Javier is a typical toddler, how will his language skills be affected by this early experience?
    A) His grammar in one language will be better than his grammar in the other.
    B) He will often mix the two languages together when speaking to monolinguals.
    C) His mastery of both languages will proceed normally, with proper grammar in both.
    D) His cognitive skills will lag behind those of similar-aged monolingual children.

145. _____ believed that children learn language by receiving adequate parental attention.
    A) Jean Piaget
    B) B. F. Skinner
    C) Noam Chomsky
    D) Leo Vygotsky

146. By 10 months of age, Alan has a vocabulary of a dozen words. B. F. Skinner would have attributed Alan's rapid speech development mainly to:
    A) his unusually high I.Q.
    B) an unusual language-acquisition talent.
    C) the amount his parents talk to him.
    D) rapid physical development.

147. According to the sociocultural perspective, what is the focus of early communication for infants younger than 12 months?
    A) context
    B) content
    C) emotion
    D) sound

148. Which statement supports the sociocultural perspective of language learning?
    A) Toddlers learn new words best by hearing an adult say a new word as they play with an unrelated object.
    B) Toddlers learn new words best when they are taught in person.
    C) Toddlers learn new words best in a group setting.
    D) Toddlers learn new words best by watching others talk.

149. When does it first become obvious that a person has discerned the rules of his or her native language?
    A) when the person learns a second language
    B) when the person is able to read and write
    C) when the person starts using two-word sentences
    D) once the person's sentences contain a subject, verb, and object

150. According to Chomsky's theory of language acquisition:
    A) children learn language through a complex process of imitation and reinforcement.
    B) children have an inborn ability to learn language.
    C) the inability to learn language is due to specific brain dysfunctions.
    D) language learning utilizes one particular structure in the brain.

151. The language acquisition device (LAD) was proposed by Chomsky to explain:
    A) children's vocabulary spurts.
    B) the difference between surface structure and deep structure.
    C) the systematic differences among languages.
    D) children's ability to derive the rules of grammar quickly and effectively.

152. The statement, "Multiple attentional, social, and linguistic cues contribute to early language learning" supports the _____ theory of language learning.
    A) behavioral
    B) epigenetic
    C) hybrid
    D) social impulse

True-False Questions

153. Infants usually triple their birth weight by the end of their first year.
    A) True
    B) False

154. The average American newborn weighs about eight pounds and is about 27 inches in length.
    A) True
    B) False

155. Between 12 and 24 months, infant growth is generally slower than it was in the first year.
    A) True
    B) False

156. Most two-year-olds weigh almost 30 pounds.
    A) True
    B) False

157. The speed of physical growth in the first year is continued during the second year.
    A) True
    B) False

158. Two-year-olds are about 20 percent of their adult weight.
    A) True
    B) False

159. It is always concerning if a baby ranks below the 20th percentile for height or weight.
    A) True
    B) False

160. The brain of the newborn is the same size as those of an adult and therefore disproportionately large.
    A) True
    B) False

161. The circumference of the brain increases three times in the first year of life.
    A) True
    B) False

162. Dendrite growth is the major reason that brain weight triples in the first two years.
    A) True
    B) False

163. The last part of the brain to develop is the prefrontal cortex.
    A) True
    B) False

164. Axons and dendrites meet at a synapse.
    A) True
    B) False

165. At birth, the brain contains more than 100 trillion neurons.
    A) True
    B) False

166. The temporary increase in the number of dendrites in the first two years of life is known as transient exuberance.
    A) True
    B) False

167. Pruning neural connections improve neural communication and increase thinking ability.
    A) True
    B) False

168. The space between neurons in the brain most likely contributes to complex thinking in humans.
    A) True
    B) False

169. Research has found that the own-race effect is the result of innate prejudice against those who look unfamiliar.
    A) True
    B) False

170. Recognition of diverse faces improves with early exposure.
    A) True
    B) False

171. Infants require toys that make noise, play music, beep, and sing in order for their brains to develop adequately.
    A) True
    B) False

172. Shaking a baby causes neural connections to break and ruptures blood vessels in the brain.
    A) True
    B) False

173. Self-righting helps the brain development of infants who do not have enriching environments.
    A) True
    B) False

174. Brain maturation is one factor that influences an infant's sleep patterns.
    A) True
    B) False

175. The typical newborn sleeps about 15 to 17 hours out of 24.
    A) True
    B) False

176. According to recent research, co-sleeping is harmful to babies' development.
    A) True
    B) False

177. Sensation begins when an outer sense organ detects an incoming stimulus.
    A) True
    B) False

178. In order for sensation to occur, one must be able to understand and comprehend the incoming stimuli.
    A) True
    B) False

179. Perception takes place in the corpus callosum.
    A) True
    B) False

180. Perception requires experience in addition to normal brain functioning.
    A) True
    B) False

181. Eli is six months old. He slaps the water repeatedly each time he is in the bathtub, squealing as the water splashes. His tendency to continue splashing water demonstrates his perception and his attempt to make sense of it.
    A) True
    B) False

182. Infants do not turn their heads in response to a sound until they are at least three months old.
    A) True
    B) False

183. Binocular vision is the ability to focus both eyes in a coordinated manner in order to see one image.
    A) True
    B) False

184. Newborns are especially responsive to rhythmic sounds such as lullabies.
    A) True
    B) False

185. In a newborn, vision is not as well developed as hearing.
    A) True
    B) False

186. Some herbs and plants contain natural substances that are medicinal, and thus the foods a particular culture eats may aid human survival.
    A) True
    B) False

187. The food enjoyed in different cultures may aid in human survival.
    A) True
    B) False

188. It has been proven that infants feel as much pain as adults.
    A) True
    B) False

189. The five senses serve no purpose in comforting infants.
    A) True
    B) False

190. A child who begins walking independently at 12 months is close to the average age for accomplishing this skill.
    A) True
    B) False

191. An example of a fine motor skill is transferring objects from one hand to the other.
    A) True
    B) False

192. Henry is demonstrating his gross motor skills when he picks up Cheerios from his high-chair tray.
    A) True
    B) False

193. Motor skills are used to control actions.
    A) True
    B) False

194. It is probable that up to 4 billion children born between the years 1950 and 2010 would have died without the institution of public health practices.
    A) True
    B) False

195. The transmission of malaria is relatively easy to prevent by providing people with insect-repellent nets under which to sleep.
    A) True
    B) False

196. Immunizations are useful in protecting children from diseases but not from the serious complications that result from childhood illness.
    A) True
    B) False

197. The MMR vaccine causes autism.
    A) True
    B) False

198. The thick, high-calorie fluid secreted by the mother's breasts soon after childbirth is known as callosum.
    A) True
    B) False

199. The fats and sugars used in formula make it more digestible than breast milk.
    A) True
    B) False

200. Stunting is a disease directly caused by malnutrition.
    A) True
    B) False

201. The child's abdomen typically swells with fluid with the disease called kwashiorkor.
    A) True
    B) False

202. There are five stages of sensorimotor intelligence.
    A) True
    B) False

203. According to Piaget, the period of sensorimotor intelligence comes to an end shortly after the first birthday.
    A) True
    B) False

204. One of the first acquired adaptations is an accommodation of reflexes—for example, the reflexes involved in sucking a pacifier.
    A) True
    B) False

205. By eight months of age, infants have an understanding of object permanence.
    A) True
    B) False

206. Deferred imitation is a kind of memory infants begin to exhibit at about 18 to 24 months of age.
    A) True
    B) False

207. Reminder sessions can prolong a young infant's memory of earlier events.
    A) True
    B) False

208. The sequence in which language development occurs depends upon which language is spoken.
    A) True
    B) False

209. The sequence of early language development is universal.
    A) True
    B) False

210. Baby talk refers to the sounds made by babies and imitated by parents in the first few weeks after birth.
    A) True
    B) False

211. Preverbal infants show a preference for child-directed over ordinary adult speech.
    A) True
    B) False

212. Deaf babies do not babble.
    A) True
    B) False

213. A child's first word combinations, for example, “More cookie,” or “My toy,” are called holophrases.
    A) True
    B) False

214. The first two-word sentence appears between 18 and 24 months of age.
    A) True
    B) False

215. According to Skinner, a grandfather who smiles whenever the baby says “pa-pa” is providing reinforcement for talking.
    A) True
    B) False

216. Reading to infants has no effect on their language learning since they do not understand most words used in children's books.
    A) True
    B) False

217. “Language acquisition device” is a term Chomsky used to refer to the infant's inborn ability to learn language.
    A) True
    B) False

Fill-In-The-Blank Questions

218. Infants typically double their birth weight by the _____ month of life.

219. _____ are used to interpret variations in the norms of children's growth.

220. The nervous system is made up of nerve cells called _____.

221. The six outer layers of the brain, involved in feeling, thinking, and sensing, are referred to as the _____.

222. The last area of the brain to mature is the _____.

223. The fiber that extends from a neuron and transmits electrochemical impulses from that neuron to the dendrites of other neurons is called a(n) _____.

224. A(n) _____ is the intersection where the axon of one neuron meets the dendrites of other neurons.

225. _____ are the brain chemicals that carry information across the synaptic gap between neurons.

226. The process of brain development that involves the atrophy and death of connections that are not being used is called _____.

227. The part of the brain that seems dedicated to the perception of faces is the _____ area.

228. _____ is a life-threatening injury that occurs when an infant is forcefully shaken since this motion ruptures blood vessels in the brain and breaks neural connections.

229. _____ refers to infants' inborn ability to remedy deficits in their environments in order to promote their own brains' development.

230. Flickering of the closed eyes and rapid brain waves are characteristics of the sleep cycle known as _____.

231. Newborns spend quite a lot of time in rapid eye movement sleep. Such sleep is associated with _____.

232. In Malik's family, infants sleep beside their parents in a practice known as _____.

233. Sensation occurs when a sensory system detects a stimulus; _____ occurs when the brain processes this sensory information.

234. The fetus's sense of hearing develops during the _____ trimester of pregnancy.

235. Vision is the _____ mature of the five senses at birth.

236. The ability to use both eyes together to focus on an object is called _____ vision.

237. _____ appears to be an effective pain reliever for newborns.

238. Physical abilities that involve large body movements are _____ skills.

239. The three factors that combine to allow toddlers to walk are muscle strength, _____, and brain maturation within the motor cortex.

240. A child's five senses further three goals: social interaction, comfort, and _____.

241. Worldwide, at least _____ children were born between 1950 and 2010.

242. The single most important cause of improvement in child survival in the twentieth century is _____.

243. Widespread immunization eradicated _____, the most lethal disease for children.

244. When breast milk and cow's milk are compared, _____ milk is found to contain more antibodies against disease.

245. A toddler in a country affected by famine suffers from a protein-calorie deficiency that causes the disease _____.

246. A six-month-old girl living in a country affected by famine suffers from a protein-calorie deficiency that causes the disease _____.

247. According to Piaget, the first period of cognitive development is the _____ period, which lasts from birth until about age two.

248. A psychologist who hides a toy under a blanket to see if an infant will try to uncover it wants to see if the child understands _____.

249. Noting that children between 12 and 18 months of age engage in extensive experimentation and exploration, Piaget described the toddler of this age as the _____.

250. In the final stage of sensorimotor intelligence, toddlers begin to anticipate and solve simple problems by using _____ combinations.

251. The perspective of cognition modeled on computer functioning is called _____ theory.

252. Research with three-month-old infants demonstrates that _____ sessions can help a baby to recollect an idea, thing, or experience without necessarily testing whether he or she remembers it at the moment.

253. Compared to ordinary speech, child-directed speech has a _____ pitch.

254. The distinct form of language used by adults to communicate with babies is called baby talk, motherese, or _____.

255. Baby talk and _____ are referred to as child-directed speech by scientists.

256. An infant's repetition of syllables such as “ba-ba” is called _____.

257. A single-word utterance that expresses a complete thought is called a(n) _____.

258. When two-word combinations begin around 21 months, it is apparent that a toddler has begun to comprehend _____ concepts.

259. The fact that variations in a child's vocabulary size correlate with the amount of language that child has heard underlies the _____ theory of language learning.

260. The _____ theory of language learning stresses that infants are social beings who learn language in order to communicate with other people.

261. The initials LAD stand for _____, a mental structure proposed by Chomsky as an explanation for infants' ability to learn to speak.

Essay Questions

262. Explain the changes that occur within the infant brain during the first years of life.

263. Graphically represent an example of one neuron connecting to another neuron, including a description of the role of the axon, dendrite, and synapse.

264. Illustrate how the brain attempts to protect itself under circumstances of adversity during development. How might it try to compensate for a lack of stimulation, for neglect, or for maltreatment?

265. Examine parent/child sleeping practices from two different cultural perspectives. What is the reason for the particular practice in each culture? Explain your personal perspective on sleeping practices.

266. Describe how developed each of the five senses is at birth and how they develop over the first two years of life.

267. You have been asked to develop a program of sensory stimulation and motor skill development for infants who are confined long-term in crowded shelters due to a severe hurricane and its aftermath. What kinds of experiences would you create to support sensory and motor skill development?

268. Discuss the role of immunization in safeguarding public health. Describe what immunizations do and what might happen if children are not immunized.

269. Discuss the advantages and disadvantages of breast-feeding over bottle-feeding.

270. Briefly describe each of the six stages of sensorimotor intelligence, and for each stage, give an example of what an infant learns.

271. You have been asked to babysit a 10-month-old infant in your home. Describe the kinds of activities you would plan for an infant of this age and why such activities would be appropriate.

272. Explain the nature and limitations of memory in infants. Give examples to demonstrate your answer.

273. Why does child-directed speech have the same characteristics all over the world?

274. What is baby talk? Explain the characteristics and functions of baby talk.

275. How do the views of Skinner and Chomsky differ in their explanation of infant language acquisition? Explain each view, and then determine which one seems most convincing to you.

Text-Based Questions

276. What part of an infant grows the most in the first two years?

277. How are newborn humans the opposite of newborn kittens?

278. Does immunization protect or harm babies?

279. If a baby doesn't look for an object that disappears, what does that mean?

280. Why talk to babies who are too young to understand words?

281. In what ways does a baby's weight and height change in the first two years?

282. Describe the process of communication within the central nervous system.

283. Why is pruning an essential part of brain development?

284. What should caregivers remember about brain development when an infant cries?

285. How do a baby's sleep patterns change over the first 18 months?

286. What is the relationship among perception, sensation, and cognition?

287. How does an infant's vision change over the first three months?

288. Give examples to describe how an infant's gross motor skills develop over the first year.

289. Describe how a baby's hand skills develop over the first two years.

290. Why has there been a decrease in infant mortality rates? What other measures could lead to a further decrease?

291. What is the purpose of immunization?

292. In what ways does herd immunity save lives?

293. Why has the rate of immunization decreased over the past decade?

294. What are the reasons for and against breast-feeding until a child is at least 1 year old?

295. In what ways does malnutrition affect infants and children?

296. Why did Piaget call cognition in the first two years “sensorimotor intelligence”?

297. Describe the first two stages of sensorimotor intelligence.

298. In sensorimotor intelligence, what is the difference between stages three and four?

299. Why is the concept of object permanence important to an infant's development?

300. What does the active experimentation of the stage-five toddler suggest for parents?

301. Why did Piaget underestimate how rapidly early cognition occurs?

302. What conditions help 3-month-olds to remember something?

303. What have researchers discovered about the way adults talk to babies?

304. How would a caregiver who subscribes to the behaviorist theory of language learning respond when an infant babbles?

305. What is typical of the rate and nature of the first words that infants speak?

306. What indicates that toddlers use some grammar?

307. According to behaviorism, how do adults teach infants to talk?

308. According to sociocultural theory, why do infants try to communicate?

309. What is Chomsky's theory about how young children learn language?

310. What does the hybrid model of language learning suggest to caregivers?

Answer Key

1. C
2. B
3. C
4. C
5. A
6. A
7. D
8. C
9. D
10. A
11. C
12. D
13. D
14. D
15. A
16. C
17. A
18. D
19. C
20. A
21. A
22. A
23. C
24. C
25. B
26. D
27. A
28. A
29. D
30. C
31. D
32. C
33. B
34. C
35. D
36. A
37. B
38. A
39. B
40. B
41. C
42. A
43. B
44. C

45. D
46. A
47. B
48. C
49. C
50. D
51. A
52. B
53. A
54. B
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56. A
57. D
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65. D
66. C
67. A
68. B
69. A
70. D
71. C
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76. B
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83. D
84. C
85. B
86. A
87. B
88. A
89. B
90. C

91. D
92. B
93. C
94. C
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97. D
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102. A
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106. B
107. C
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109. D
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111. C
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115. B
116. A
117. D
118. C
119. D
120. C
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134. C
135. C
136. B

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146. C
147. C
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149. C
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151. D
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206. A
207. A
208. B
209. A
210. B
211. A
212. B
213. B
214. A
215. A
216. B
217. A
218. fourth
219. Percentiles
220. neurons
221. cortex
222. prefrontal cortex
223. axon
224. synapse
225. Neurotransmitters
226. pruning
227. fusiform face
228. Shaken baby syndrome

229. Self-righting
230. REM (rapid eye movement)
231. dreaming
232. co-sleeping (bed-sharing)
233. perception
234. last (third) (final)
235. least
236. binocular
237. Sugar (Sucrose)
238. gross motor
239. practice
240. learning
241. 10 billion
242. immunization
243. smallpox
244. breast
245. kwashiorkor
246. marasmus
247. sensorimotor
248. object permanence
249. little scientist
250. mental
251. information-processing
252. reminder
253. higher
254. child-directed speech
255. motherese
256. babbling
257. holophrase
258. grammar
259. behavioral
260. sociocultural
261. language acquisition device
262. Brain growth is rapid during infancy; it is a time of rapid growth and refinement of axons, dendrites, and synapses, primarily in the cortex. The brain triples in weight in the first two years, largely due to dendrite growth during transient exuberance. Dendrites expand or are pruned based on early experiences; pruning of dendrites actually increases brainpower.
263. This response should include a rudimentary graph of two neurons, with dendrites receiving the message from one neuron to the next. The axon should be illustrated as sending the messages to other cells, and an indication of myelin covering the axon may be included. The synapse should be defined as the intersection between neurons, and there should be some discussion of transmission of neurotransmitters in the communication between neurons.
264. Infants are alert to experiences that stimulate the brain in ways needed for their development. The growing brain protects itself through processes including

head-sparing, in which the brain is the last part of the body to suffer from malnutrition, to self-righting, the inborn drive to remedy a developmental deficit. However, if a lack of stimulation, neglect, or maltreatment is sustained and severe enough, the brain may not be able to successfully recover from this early adversity.

265. In many U.S. families, infants have traditionally slept in cribs and in their own rooms where they are separated from parental sexual interactions. In these families, the primary concern appears to be about privacy. In contrast, infants in Asia, Africa, and Latin America have often slept with their parents, based on the belief that separating infants from their parents is cruel and that infant crying at night signals distress. Students may also note that because many poor Western families still find ways to create separate baby rooms and because many wealthy Japanese families choose to co-sleep, it appears that these sleeping patterns are influenced more by culture than SES. Students should then explain and justify their own perspectives on sleeping practices.
266. Each of the five senses is present at birth although some senses are much more developed than others. Hearing (which begins before the baby is born) is acute at birth; vision is the least-developed sense at birth. An infant has reflexes that respond to touch (such turning toward and sucking when someone brushes the child's cheek and grasping a person's finger). All of the senses contribute to the experiences that allow an infant to develop and learn. By four months, infants have developed perceptions of speech, expecting familiar rhythms and cadences of words. Vision improves rapidly after birth, with binocular vision in place so that between 2 and 4 months, an infant can focus on a single item. Babies quickly begin to recognize familiar smells and come to appreciate familiar tastes. Similarly, babies soon learn to prefer specific, familiar touches.
267. Answers will vary and should include stimulation of all of the five senses and experiences to develop both fine and gross motor skills. Creativity should be demonstrated due to the potential lack of supplies and toys.
268. Immunizations have been instrumental in the sharp decrease and near eradication of many common childhood diseases--smallpox being the best example. Immunization stimulates the body's immune system to defend against particular diseases. Children who are not immunized are more susceptible to disease and death. If approximately 90 percent of a population is immunized, the few children who are not are usually still safe due to herd immunity.
269. Breast-feeding encourages attachment between mother and child, provides immunities, and is more digestible and contains more vitamins and minerals than cow's milk. Further, breast-fed babies have fewer allergies and stomachaches. The disadvantages of breast-feeding include the potential to transmit teratogens that the mother might ingest, the other family members' inability to participate with the mother in the feeding, and the inconvenience of feeding on demand. Students may include additional answers.
270. Examples will vary, but should illustrate the stages of sensorimotor intelligence as follows:
    Stage One: Reflexes. These include all of the reflex actions apparent at birth. The infant gains information about the world through the repeated exercise of these reflexes.
    Stage Two: Acquired Adaptations (also called First Habits). These include behaviors such as thumb-sucking, through which the infant learns the limits of his or her own body.
    Stage Three: Making Interesting Things Last. These include behaviors through which

the infant interacts with things in the environment such as shaking a rattle and kicking to make a crib mobile move.
Stage Four: New Adaptation and Anticipation (also called Means to an End). These include goal-directed behaviors, which stems from an enhanced awareness of cause and effect and the emergence of the motor skills needed to achieve these goals such as pointing and making gestures.
Stage Five: New Means Through Experimentation. These include trial-and-error learning such as squeezing toothpaste tubes, flushing things in the toilet, and taking something apart to see what's inside.
Stage Six: New Means Through Mental Combinations. In this stage, toddlers are able to think about various actions mentally without actually having to perform them (such as recalling that they got in trouble the last time they flushed teddy down the toilet and thus refrain from flushing something else). At this stage toddlers can also engage in deferred imitation.

271. The answers should stress involving the baby in social interaction, especially games that involve taking turns and babbling. The best answers will include the idea that the babysitter should be sensitive to the infant's gestures and other signs that indicate which activities are enjoyed.
272. Infant memory is fairly simple. Repeated experiences are more likely to be remembered than one-time experiences. This is seen in language learning as well as in learning new behaviors. When teaching a new activity, such as how to play with a new toy, several demonstrations will probably be necessary before the child remembers the sequence of activities. Examples will vary but should illustrate this idea. For example, if a child is seeing a dog for the first time, it is important that parents repeat the word “dog” several times and allow time for the child to attempt repetition or at least to notice the adult's use of the word in reference to the dog.
273. All normal human infants are very similar in their capacity to perceive and respond to language. Child-directed speech, also called motherese, has similar characteristics worldwide because it reflects language adaptations best suited for communication with infants.
274. Baby talk is also known as motherese, or child-directed speech. The characteristics are high-pitched speech that uses simple words and short sentences. This type of speech is used universally when talking to infants around the globe. Infants are more likely to respond to these high-pitched sounds than they are to monotonous, steady sounds. Since they respond more to these sounds, their language acquisition is likely to develop more quickly.
275. Noticing that an infant's first babbles are usually reinforced with smiles, repetition of the sound, and other forms of attention, Skinner believed that parents reinforce the developing speech of their babies. In Skinner's behavioral theory, parents and other caregivers are teachers of language. In contrast, Chomsky believed that infants are born with an innate language acquisition device (LAD) that equips them to learn language on their own. According to this view, language learning is the result of neurological maturity. After explaining these views, students should explain which theory appears most convincing to them.
276. From two weeks after conception to two years after birth, the brain grows more rapidly than any other organ, reaching about 25 percent of adult weight at birth and almost 75

percent at age 2.

277. Physiologically, young human infants are an unusual combination of motor immaturity (they cannot walk for many months), sensory acuteness (all senses function at birth), and curiosity. In contrast, kittens are born deaf, with eyes sealed shut, and who stay beside their mother although they can walk.
278. Immunization protects babies not only from many illnesses and also from complications related to those illnesses, including deafness, blindness, sterility, and meningitis. Infants may react to immunization by being irritable or even feverish for a short time, but serious harm is very rare.
279. According to Piaget, a baby who doesn't look for a disappearing object has not yet developed object permanence—the concept that objects or people continue to exist when they are no longer in sight.
280. Hearing infants begin learning language before birth. Newborns look closely at facial expressions, apparently trying to connect words and expressions to understand what is being communicated. The ability to distinguish sounds and gestures in the language of caregivers improves over the first year
281. Weight gain in the first two years is dramatic. In the first few days of life, newborns typically lose a few ounces and then they gain an ounce a day for several months. Birthweight typically doubles by 4 months and triples by a year. Physical growth in the second year is slower but still rapid. By 24 months, most children weigh almost 28 pounds (13 kilograms). They have added more than a foot in height—from about 20 inches at birth to about 34 inches at age 2.
282. The cells of the central nervous system are called neurons. Each neuron has a single axon and numerous dendrites, which spread out like the branches of a tree, making connections with the dendrites and axons of other neurons. Neurons communicate by sending electrochemical impulses through their axons to synapses (neuronal intersections) to be picked up by the dendrites of other neurons. The dendrites bring messages to the cell bodies of their neurons, which, in turn, convey the messages via their axons to the dendrites of other neurons.
283. The expansive growth of dendrites is followed by pruning, unused brain connections atrophy and die. This loss of dendrites is important for the initial organization of the brain and it increases brainpower.
284. Infants cry as a reflex to pain, but they are too immature to decide to stop crying.
285. Newborns cannot sleep through the night. Normally, infants sleep 15 to 17 hours a day, in one- to three hour segments. Hours of sleep decrease rapidly with maturity. In addition, the relative amount of time in various stages of sleep changes. About half of the sleep of newborns is REM (rapid eye movement) sleep, with flickering eyes and rapid brain waves. REM sleep declines over the early weeks, as does “transitional sleep,” the dozing, half-awake stage. At 3 or 4 months, quiet sleep increases, as does time alert and wide awake.
286. Sensation, when a sensory system detects a stimulus, precedes perception, the processing of a sensation. Perception leads to cognition, thinking about what has been perceived.
287. Newborns are legally blind. Almost immediately, experience combines with maturation of the visual cortex to improve the ability to see shapes and then notice details. By 2 months, infants not only stare at faces but also, after perception and then cognition,

smile. As perception builds, visual scanning improves. Thus, 3-month-olds look closely at the eyes and mouth, smiling more at smiling faces than at angry or expressionless ones. Binocular vision also develops between 2 and 4 months.

288. Answers will vary, but should include examples like infants' ability to sit, crawl, walk, and increasingly controlling their heads, upper bodies, arms, and finally their legs and feet.
289. Newborns have a strong reflexive grasp but lack control. By 3 months, infants can touch objects dangling within reach, but they cannot yet grab and hold on unless an object is placed in their hands. By 4 months, infants sometimes grab, but their timing is off: They close their hands too early or too late. Finally, by 6 months most babies can reach, grab, and grasp almost any object that is of the right size. Toward the end of the first year and throughout the second, finger skills improve as babies master the pincer movement and self-feeding. In the second year, grasping becomes more selective. Toddlers learn when not to grab things.
290. Public health measures such as clean water, nourishing food and immunization are the main reasons decrease in infant mortality rates. Other measures that could lead to a further decrease include the availability of doctors and nurses in underserved areas.
291. Immunization stimulates the body's immune system to defend against attack by a particular contagious disease and can be accomplished either naturally (by having the disease) or through vaccination.
292. Each vaccinated child stops transmission of the disease and thus protects others, a phenomenon called herd immunity. Usually if 90 percent of the people in a community (a herd) are immunized, the disease does not spread to those who are vulnerable.
293. Parents are concerned about potential side effects of immunization such as irritability. In addition, when something seems to go amiss with vaccination, the media broadcasts it. This frightens parents and makes then less likely to get their children immunized.
294. Breast-feeding has many benefits including the fact that babies who are exclusively breast-fed are less often sick. In infancy, breast milk provides antibodies against any disease to which the mother is immune and decreases allergies and asthma. Babies who are exclusively breast-fed for six months are less likely to become obese and thus less likely to develop diabetes or heart disease. Formula feeding is preferable only in unusual cases, such as when the mother is HIV-positive or uses toxic or addictive drugs.
295. Chronically malnourished infants and children suffer in three ways: a) their brains may not develop normally, b) malnourished children have no body reserves to protect them against common diseases, and c) some diseases result directly from malnutrition, including marasmus during the first year and kwashiorkor after age 1.
296. Piaget called cognition in the first two years sensorimotor intelligence because infants learn through their senses and motor skills.
297. The first stage, the stage of reflexes, lasts only a month. The newborn's reflexes evoke some brain reactions. Sensations in stage one lead to perception, which leads to the second stage, the stage of first acquired adaptations. By about 1 month, infants have adapted their reflex to a variety of situations. This adaptation is a sign that infants have begun to interpret their perceptions.
298. In stages three and four infants are an interacting with things in the environment. During stage three, infants attempt to produce exciting experiences and try to continue any pleasing event. During stage four, the stage of new adaptation and anticipation, infants

have goals that they try to reach. Thinking is more innovative because adaptation is more complex.

299. The development of object permanence means that infants understand the concept that objects or people continue to exist even when they are out of sight. This shows that infants can now mentally represent things in their mind and do not have to be directly interacting with the objects.
300. Stage five, the stage of new means through active experimentation, is when goal-directed anticipation becomes more expansive and creative. This means that infants will engage in exploratory behavior, doing things that may not make parents happy such as squeezing all the toothpaste out of the tube or uncovering an anthill.
301. Piaget underestimated how rapidly early cognition occurs because his methods for determining what infants could think relied only on direct observation of behavior, such as noticing whether or not a baby pulled away a cloth to search for a hidden object. Scientists now have many ways of measuring brain activity long before any observable evidence is apparent.
302. Researchers find that reminders help infants remember. The context is crucial, especially for infants younger than 9 months old.
303. Adults everywhere use higher pitch, simpler words, repetition, varied speeds, and exaggerated emotional tones when they speak to infants – this is known as child-directed speech.
304. The caregiver would likely smile, repeat the sounds, and shower the baby with attention and praise in order to reinforce the babbling.
305. At about 1 year, the average baby utters their first words. First words are typically labels for familiar things, but each can convey many messages. “Dada!” “Dada?” and “Dada” may each be conveyed differently. Each is a holophrase, a single word that expresses an entire though. Spoken vocabulary increases gradually however understanding meaning increases rapidly; infants understand about 10 times more words than they can say.
306. When infants start using two-word combinations they use the proper word order. For example, no child asks, “Juice more.” Soon the child combines three words, usually in subject–verb–object order in English rather than any of the five other possible sequences of those words.
307. Infants learn language through association and reinforcement. Parents are excellent instructors, responding to their infants' gestures and sounds, thus reinforcing speech.
308. According to sociocultural theory, infants communicate because humans have evolved as social beings, dependent on one another for survival and joy. Each culture has practices that further social interaction; talking is one of those practices.
309. According to Chomsky, humans are born with a mental structure that prepares them to seek some elements of human language. He called this structure the language acquisition device (LAD). The LAD enables children to derive the rules of grammar quickly and effectively from the speech they hear every day.
310. Since infants learn language to do numerous things—such as indicate intention, call objects by name, put words together, talk to family members, express their wishes, remember the past, and much more—some aspects of language learning might be best explained by one theory at one age while other aspects are better explained by another theory at another age. Since all three theories are relevant to language learning adults need to talk often to infants, encourage social connections, and appreciate the innate

abilities of the child.