1. If "black" is said, it might make one think of the word "white." The connection in one's memory between these concepts is known as:
   A) associationism.
   B) dualism.
   C) empiricism.
   D) nativism.

2. Which theorist was considered an empiricist?
   A) Plato
   B) Charles Darwin
   C) Francis Galton
   D) Aristotle

3. If one believes that all babies are born with the potential to become great musicians, one would agree with the ideas of:
   A) Plato.
   B) Gottfried Leibniz.
   C) John Locke.
   D) Francis Galton.

4. Charles Darwin proposed three criteria for traits to evolve through natural selection. Which statement is an example of the criterion of relevance to survival?
   A) Giraffe necks can range from short to long across members of the species.
   B) Finch beaks range in shape from thin to thick.
   C) Fawns with camouflaging spots will be protected from predators.
   D) Neck length is a trait passed from giraffe parent to offspring.

5. In experimental psychology, the group that receives the treatment is referred to as the:
   A) control group.
   B) independent variable.
   C) correlational group.
   D) dependent variable.

6. In Ebbinghaus's studies of memory, what was the dependent variable?
   A) length of delay between learning and relearning
   B) length of time it took to relearn a list
   C) length of the list being learned
   D) amount of practice done before being tested

7. One problem with Ebbinghaus's studies was that:
   A) he did not manipulate any variables.
   B) he used a double-blind design.
   C) he used a blind design.
   D) there was a possibility of subject bias.

8. If experimenters play a very loud buzzer, a rat will be startled. If they repeatedly flash a light before the buzzer is played, the rat will eventually be startled by the light alone. This is an example of:
   A) generalization.
   B) classical conditioning.
   C) the law of effect.
   D) instrumental conditioning.

9. Which statement predicts the law of effect?
   A) If a tone is played while the dog is given food, the dog will eventually salivate in response to the tone.
   B) If a child is bitten by a large black dog, the child will start to fear all dogs, not just large black dogs.
   C) If a teenager is grounded for staying out past his curfew, he will come home on time in the future.
   D) If one can remember a list of words for a few hours after studying it, one will be less likely to forget the list later on.

10. Behaviorism places the GREATEST emphasis on:
    A) interpersonal relationships.
    B) unconscious emotions.
    C) observable behavior.
    D) mental processes.
11. In the movie *Trading Places*, a millionaire bets his brother that he can turn a beggar and thief into an upstanding citizen and turn a wealthy, moral man into a common criminal, just by altering the circumstances and environment of the two men. This view reflects the ideas of:

A) John Watson.
B) Charles Darwin.
C) Plato.
D) René Descartes.

12. Emily believes that babies learn language simply by being rewarded for making the correct language-like sound in response to something they hear. Her idea about learning language is MOST similar to the ideas of:

A) B. F. Skinner.
B) Edward Tolman.
C) Herbert Simon.
D) George Miller.

13. Edward Tolman's research on the formation of cognitive maps in rats was important because it:

A) demonstrated that learning is based on stimulus–response association.
B) emphasized the importance of studying the role of internal representations in learning.
C) enabled him to devise a comprehensive mathematical model of animal learning.
D) demonstrated the importance of insight in learning.

14. George Miller demonstrated that short-term memory capacity for digits was:

A) between 10 and 20 digits.
B) virtually unlimited.
C) about 3 digits.
D) between 5 and 9 digits.

15. Who proposed the idea that learning relies on network connections between simple processing units?

A) Herbert Simon
B) W. K. Estes
C) Edward Tolman
D) David Rumelhart

16. If one has to study for an exam, what are the three things one can do that will help improve one's memory for the material?

17. How would Aristotle's three principles of association explain how people come to associate *dog* and *cat*?

18. People raised in different cultures often exhibit different behaviors (e.g., perceptual, social, motivational, etc.) How would an empiricist account for such differences across cultures? How would a nativist account for the differences?

19. Many people have had the experience of *déjà vu*, in which, on encountering a particular situation, they have a strong feeling that it has happened to them before. How might such a feeling be accounted for by William James's model of association?

20. How can Charles Darwin's theory of natural selection be applied to human learning and memory?

21. Describe the methods Hermann Ebbinghaus used for studying memory.

22. Suppose a dog is classically conditioned to salivate in response to a metronome ticking at 90 beats per minute. One can then measure the amount of salivation produced when presented with a metronome ticking at 80 beats per minute, and 100 beats per minute. In this example, what is the independent variable? What is the dependent variable?

23. An experimenter is interested in determining whether drug X will improve people's memories. The experimenter administers drug X to one group and nothing to another group, and then measures how well each group can recall a passage of text. Explain how experimenter bias and subject bias could be problems in this study. How could each problem be overcome?

24. Describe how Ivan Pavlov used classical conditioning to study salivation in dogs.

25. Give an example of how a parent might make use of the law of effect to get a child to clean up her room.

26. Explain why B. F. Skinner's form of behaviorism is called *radical behaviorism*.

27. As one reads a textbook, one does not consciously try to keep track of where all of the information is located. Yet, when there is a need to look something up, often one has a good sense of where it can be found in the textbook. What is *latent learning*, and how is it demonstrated by this example?
28. Explain why Edward Tolman was considered a neo-behaviorist.

29. How would a behaviorist approach to studying language differ from a cognitive approach to studying language?

30. Someone who is highly trained in distinguishing different faces might still make occasional mistakes when presented with a particular face. How might this be explained by stimulus sampling theory?

31. How would a distributed representation account for why it is natural to consider an office chair and a kitchen chair as types within the more general category of "chair"?

32. The process by which changes in behavior arise as a result of experience and interaction in the world is known as:
   A) natural selection.
   B) survival of the fittest.
   C) learning.
   D) sampling.

33. ___ is a record of one's past experiences.
   A) Memory
   B) Learning
   C) Experience
   D) Motivation

34. Which method is NOT a good way to remember something?
   A) Repeat the information many times.
   B) Pay attention when one is first learning the information.
   C) Focus on just one sense, such as vision or hearing.
   D) Get enough sleep.

35. Which factor plays a role in helping the individual concentrate allowing the brain to encode information in order to organize and store memories?
   A) learning
   B) sleeping
   C) diet
   D) exercise

36. Which statement is TRUE?
   A) Philosophers gain insight through scientific experiments.
   B) The study of learning and memory has always been a scientific pursuit.
   C) Insights gained through philosophy are more important than those gained through science.
   D) Today, people who study learning and memory consider themselves to be scientists.

37. Sets of statements devised to explain a collection of facts are called:
   A) data.
   B) theories.
   C) associations.
   D) symbols.

38. Gary attended a party and bumped into a friend he had not seen in years. Seeing the friend immediately triggered memories of things they had done together. Which idea about memory does this example demonstrate?
   A) nativism
   B) dualism
   C) associationism
   D) empiricism

39. If I say "up," it might make one think of the word "down." The connection in one's memory between these concepts is known as:
   A) nativism
   B) dualism
   C) associationism
   D) empiricism

40. According to Aristotle's principle of frequency, the ideas of "chair" and "table" are linked because people see chairs and tables together:
   A) at the same time.
   B) in the same place.
   C) very often.
   D) in kitchens.
41. The view that all the ideas are the result of experience is called:
   A) associationism.
   B) dualism.
   C) empiricism.
   D) nativism.

42. Barry was in a car accident in which he was not wearing a seatbelt. He was not injured, and now, based on this experience, he believes that seatbelts are unnecessary. Barry exhibits the views of:
   A) empiricism.
   B) nativism.
   C) associationism.
   D) dualism.

43. Bonita believes that one learns about the mind mainly by using logic and intuition; Miguel believes it would be better to measure the activity of the brain. Bonita is following the philosophy of _____, while Miguel is following the philosophy of _____.
   A) Aristotle; Locke
   B) Plato; Aristotle
   C) Descartes; Plato
   D) James; Locke

44. Who was considered a nativist?
   A) Aristotle
   B) René Descartes
   C) John Locke
   D) William James

45. The principle that the mind and body exist as separate entities, each with different characteristics and governed by its own laws, is called:
   A) associationism.
   B) contiguity.
   C) dualism.
   D) nativism.

46. René Descartes:
   A) was an empiricist.
   B) introduced the idea of associationism.
   C) claimed that a newborn's mind was a blank slate.
   D) believed in dualism.

47. René Descartes believed that the:
   A) mind controls the body.
   B) mind and body are governed by the same laws.
   C) body works through a system of reflex arcs.
   D) All of the answers are correct.

48. Which description is an example of a stimulus in René Descartes' reflex arc?
   A) a person being tapped on the shoulder
   B) spirits flowing from the shoulder to the brain
   C) spirits being reflected back from the brain to the muscles
   D) a person turning around to see who has tapped him on the shoulder

49. Who would argue that the complex idea of "dog" is comprised of a combination of simpler ideas such as "furry," "bark," and "friendly"?
   A) René Descartes
   B) Plato
   C) John Locke
   D) Gottfried Leibniz

50. Who believed that children are born a "blank slate"?
   A) Gottfried Leibniz
   B) Plato
   C) John Locke
   D) René Descartes
51. Who believed that human ability is due to a combination of both nature and nurture?
   A) Gottfried Leibniz
   B) Plato
   C) John Locke
   D) Aristotle

52. Jenny has three children. She believes that, as long as she treats them exactly the same, they will all grow up to have the same personality and intelligence level. Jenny's idea resembles that of which philosopher?
   A) Plato
   B) René Descartes
   C) Gottfried Leibniz
   D) John Locke

53. Who was a proponent of associationism?
   A) Gottfried Leibniz
   B) René Descartes
   C) William James
   D) Plato

54. According to _____, attending a soccer game might activate a memory of having attended a hockey game the previous day because there would be an association between some of the components the two events have in common.
   A) William James
   B) Charles Darwin
   C) René Descartes
   D) Francis Galton

55. Someone who believes that humans and animals are fundamentally different from each other would agree with the views of:
   A) Plato.
   B) Charles Darwin.
   C) Aristotle.
   D) Francis Galton.

56. Charles Darwin observed that finches on different islands had different types of beaks that were most suited to coping with the environment of their particular island. From this insight, he concluded that:
   A) life on Earth is immutably fixed.
   B) life on Earth is evolving.
   C) animals were created in their present form by God.
   D) animals migrate to locations that are most suitable.

57. Charles Darwin proposed three criteria for traits to evolve through natural selection. Which statement is relevant to survival?
   A) The shape of the finch beak ranges from thick to thin.
   B) The neck of the giraffe ranges in length across the species.
   C) The eagle's eyes allow it to see prey from very far distances.
   D) The moth's colors allow it to camouflage in with the tree bark.

58. Which statement is NOT one of Charles Darwin's proposed criteria for traits to evolve through natural selection?
   A) The trait must be inheritable.
   B) The trait must be able to be learned.
   C) The trait must vary.
   D) The trait must make the individual more fit to survive.

59. While most bacteria are eliminated by antibiotics, some can possess mutations that are resistant to antibiotics, leading to more drug-resistant strains of bacteria. Such a mutation is an example of which of Charles Darwin's proposed criteria for traits to evolve through natural selection?
   A) The trait must be inheritable.
   B) The trait must be able to be learned.
   C) The trait must vary.
   D) The trait must make the individual more fit to survive.

60. Suppose two moths are colored such that they blend in with the trees in the forest where they live. If one moth's coloring blends in much better than the other, that moth will have less chance of being eaten by predators, and will therefore be more likely to reproduce, thus passing its beneficial coloring on to its offspring. This is an example of:
   A) natural selection.
   B) a reflex arc.
   C) eugenics.
   D) the law of effect.
61. Why was Charles Darwin's view of natural selection controversial?
A) It suggested that there was not a major distinction between man and other species.
B) Darwin had no data to back up his claims.
C) Nobody believed that traits could be inherited.
D) All of the answers are correct.

62. The theory of evolution is relevant to the study of learning and memory because:
A) learned information is passed on to offspring.
B) the type of information people learn varies across individuals.
C) people are born as "blank slates."
D) learning is useful in allowing organisms to adapt to the environment.

63. Who conducted the FIRST rigorous experimental studies of human memory?
A) William James
B) Francis Galton
C) Charles Darwin
D) Hermann Ebbinghaus

64. In studying memory, Ebbinghaus was concerned that his data would be affected by the fact that he was more familiar with some words than others. He avoided this problem by using:
A) real words that were familiar but very short.
B) real words that were unfamiliar to him.
C) three-letter nonsense words.
D) strings of digits.

65. Hermann Ebbinghaus measured forgetting by:
A) measuring how long it took him to relearn a previously learned list.
B) measuring how long it took him to learn a list perfectly.
C) seeing how long a list he could remember after hearing the list just once.
D) counting the number of times he needed to hear a list before he could recall it perfectly.

66. Suppose one is trying to learn a list of words. It takes eight minutes to learn the list the first time. One studies the list again the next day and finds that it takes only two minutes. How much of a time savings has occurred?
A) 25 percent
B) 75 percent
C) 100 percent
D) 125 percent

67. In Ebbinghaus's retention curve:
A) the greatest savings occurred with short delays between learning and relearning.
B) most forgetting occurred when relearning took place after about 150 hours.
C) forgetting occurred very gradually over several days.
D) the greatest savings occurred when relearning took place after about 100 hours.

68. In Ebbinghaus's studies of memory, the length of delay between learning and relearning was the _____ variable.
A) independent
B) dependent
C) confounding
D) extraneous

69. In Ebbinghaus studies of memory, what was the dependent variable?
A) the length of delay between learning and relearning
B) the amount of practice done before being tested
C) the length of the list being learned
D) the length of time it took to relearn the list

70. That Ebbinghaus served as his own participant was problematic because:
A) his expectations might have influenced the results.
B) he could not manipulate an independent variable.
C) his studies were double-blind.
D) he didn't have any experimenter bias.

71. Which statement is TRUE about subject bias?
A) It is possible to gain insight through scientific experiments.
B) The subject is asked to verify the results.
C) The insights gained are more accurate and specific.
D) The participants prior knowledge can influence the current experiment.
72. When subjects are given two drinks but not told what they are drinking in order to get accurate results on which is the better tasting one—this is an example of what type of experimental design?
A) blind
B) double-blind
C) unethical
D) subjective

73. Miriam has been studying the effects that different genres of music have on an individual's demeanor for 5 years now. According to her research, classical music seems to not elicit any type of aggressive behavior. As she conducts her screen, she makes sure that there are no individuals who like classical music in her group. This is an example of:
A) experimenter bias.
B) experimental design.
C) subject bias.
D) blind design.

74. A pharmaceutical company has developed a new medication to treat anxiety. In order to check how well the medication responds, neither the experimenter nor the subjects know who received the medication. By doing this, the pharmaceutical company attempts to eliminate the chance of the subject's or experimenter's preconceived notions affecting the results. This is called:
A) experimenter bias.
B) double-blind design.
C) subject bias.
D) blind design.

75. In a double-blind experimental design:
A) the participant knows the hypothesis being tested.
B) the experimenter knows the hypothesis being tested.
C) both the participant and the experimenter know the hypothesis being tested.
D) neither the participant nor the experimenter knows the hypothesis being tested.

76. In order to compile and accurately measure its effectiveness, the subject pool for a new antidepressant was about 200 subjects. The pharmaceutical company prescribes 100 subjects the new medication X and a sugar pill for the remaining 100 individuals. To ensure effectiveness, the subjects are unaware of who has taken medication X and who has taken the sugar pill. This practice is known as:
A) experimenter bias.
B) pharmaceutical design.
C) placebo.
D) subject bias.

77. Classical conditioning involves:
A) learning that one stimulus predicts an important event.
B) studying lists of short nonsense words.
C) learning to make responses in order to obtain rewards or avoid punishment.
D) studying how to build computers to perform behaviors requiring human intelligence.

78. The person who developed the form of learning known as classical conditioning is:
A) Francis Galton.
B) Ivan Pavlov.
C) Hermann Ebbinghaus.
D) John B. Watson.

79. Cancer patients can develop an aversion to foods they eat right before undergoing chemotherapy. Although the foods themselves do not initially cause feelings of illness, pairing them with chemotherapy, which does cause patients to feel sick, leads to the foods becoming associated with these same feelings. This is an example of:
A) classical conditioning.
B) instrumental conditioning.
C) the law of effect.
D) extinction.

80. If dogs are presented with a bell followed by food, they quickly learn to salivate in response to the bell. If the bell is then presented without any food, what happens to the salivation response?
A) It becomes gradually stronger.
B) It becomes gradually weaker.
C) It stops immediately.
D) It continues at the same strength.
81. Pavlov paired a bell with food until a dog learned to salivate in response to the bell. To produce extinction, Pavlov:
   A) rang the bell more quietly.
   B) paired the bell with a different kind of food.
   C) stopped ringing the bell.
   D) paired the bell with the absence of food.

82. After a pigeon learns to peck at a green light, the pigeon also pecks at a light that is a slightly different shade of green. This is an example of:
   A) the learning curve.
   B) the law of effect.
   C) extinction.
   D) generalization.

83. Who proposed the law of effect?
   A) Ivan Pavlov
   B) John B. Watson
   C) Edward Thorndike
   D) B. F. Skinner

84. The law of effect predicts which statement?
   A) If a tone is played while the dog is provided food, the dog will eventually salivate in response to the tone.
   B) If a child is scratched by a black cat, the child will fear all cats, not just black ones.
   C) If one remembers a couple of phone numbers a few hours after being told, one is less likely to forget them later.
   D) If a teenager is grounded for taking the car without permission, he will ask for permission next time.

85. In which type of learning do organisms learn to respond in order to obtain or avoid important consequences?
   A) classical conditioning
   B) instrumental (operant) conditioning
   C) latent learning
   D) connectionist learning

86. Mary wants to encourage her son to work harder in school. She has decided to reward him with money for good grades and punish him by adding extra chores for bad grades. Mary's approach is MOST similar to the ideas of:
   A) Edward Thorndike.
   B) Ivan Pavlov.
   C) Herbert Simon.
   D) David Rumelhart.

87. If a rat receives a food reward whenever it presses a lever, the likelihood of the rat pressing the lever will increase. This is an example of:
   A) classical conditioning.
   B) generalization.
   C) the law of effect.
   D) the learning curve.

88. Behaviorism focuses on the study of:
   A) brain processes.
   B) internal thoughts.
   C) intentions.
   D) observable behaviors.

89. Marty's dog always sits when Marty opens the cupboard to get the dog a biscuit. How would a behaviorist describe the dog's behavior?
   A) The dog thinks that, if he sits, he will get a biscuit.
   B) The dog is hungry, so his instincts tell him to sit.
   C) The dog expects to get a biscuit when Marty opens the cupboard.
   D) The dog sits when Marty opens the cupboard.

90. Who was the founder of behaviorism?
   A) John B. Watson
   B) Edward Thorndike
   C) B. F. Skinner
   D) Ivan Pavlov

91. In Watson's studies, what was found to impair rats' ability to navigate through mazes they had previously learned?
   A) blinding the rats
   B) removing the rats' whiskers
   C) eliminating all odors in the maze
   D) rotating the maze
92. John Watson's studies of rats running through mazes demonstrated that rats had learned to use their _____ to navigate.
   A) vision and hearing
   B) automatic set of motor habits
   C) sense of smell
   D) whiskers

93. The person who FIRST attempted to develop a comprehensive mathematical model of animal learning was:
   A) Edward Thorndike.
   B) Ivan Pavlov.
   C) John B. Watson.
   D) Clark Hull.

94. The specifics of Clark Hull's equations for learning:
   A) have never been very influential.
   B) were rejected early on but are highly relevant today.
   C) were important early on and continue to be influential today.
   D) are not considered relevant today.

95. Who is considered a behaviorist?
   A) Gordon Bower
   B) George Miller
   C) David Rumelhart
   D) Clark Hull

96. B. F. Skinner discovered that, when animals are given intermittent reinforcements, they:
   A) respond less than when they are rewarded on every trial.
   B) do not respond at all.
   C) respond for the first few trials but then stop responding.
   D) respond at least as well as when they are rewarded on every trial.

97. Jessie believes that babies learn words by being rewarded for sounds that sound like those words in response to something they hear. This idea resembles the ideas of:
   A) Charles Darwin.
   B) Edward Thorndike.
   C) B. F. Skinner.
   D) Aristotle.

98. Who proposed the extreme form of behaviorism known as radical behaviorism?
   A) B. F. Skinner
   B) John B. Watson
   C) Clark Hull
   D) Edward Thorndike

99. Whose book described a Utopian society in which socially desirable behaviors would be maintained through behaviorist training techniques?
   A) John B. Watson
   B) B. F. Skinner
   C) Edward Tolman
   D) Clark Hull

100. Which idea suggests that humans function by blindly producing pre-programmed learned responses to environmental stimuli?
    A) information theory
    B) learning by insight
    C) neo-behaviorism
    D) radical behaviorism

101. Which theorist was inspired by Edward Tolman to pursue the study of learning?
     A) John B. Watson
     B) William James
     C) B. F. Skinner
     D) Edward Thorndike

102. "Behavior reeks of purpose" was the maxim of:
     A) B. F. Skinner.
     B) Edward Thorndike.
     C) Edward Tolman.
     D) John B. Watson.
103. Who believed that rats were forming a "cognitive map" when they learned to navigate through a maze?
A) Clark Hull
B) Ivan Pavlov
C) John B. Watson
D) Edward Tolman

104. Suppose one encounters construction while driving home. One cannot take the regular route but has no trouble in determining an alternate route to reach home. This ability is MOST like the behavior of animals in which researcher's studies?
A) John. B. Watson
B) Edward Tolman
C) Ivan Pavlov
D) B. F. Skinner

105. The idea that rats have a cognitive map of a maze is supported by the finding that rats:
A) only learn to navigate the maze if a food reward is given at the end.
B) cannot navigate the maze if their usual route is blocked.
C) can navigate the maze, even if they start from a novel position.
D) require only one trial to learn the layout of a maze.

106. If rats are allowed to freely explore a maze without being given a food reward and later are put in the maze again with a food reward in the goal box, the rats:
A) learn the maze as quickly as rats that have never been exposed to the maze.
B) learn the maze more quickly than rats that have never been exposed to the maze.
C) learn the maze more slowly than rats that have never been exposed to the maze.
D) are unable to learn the maze regardless of being rewarded.

107. If one is driven to the school by a friend each day, one will probably learn the route and be able to use it later on, even though there is no reward for using it. This is an example of:
A) generalization.
B) latent learning.
C) the law of effect.
D) a placebo effect.

108. Linda has never been interested in sports, yet everyone in her house plays basketball and football. After dinner one night, everyone goes outside to play basketball. Since there are only five players, Linda is asked to join. As the game goes on, she manages to make almost every shot when the ball is passed to her. This is an example of:
A) latent learning.
B) generalization.
C) the law of effect.
D) a placebo effect.

109. The reason behaviorism lost its appeal is that:
A) its methods were not precise enough.
B) it focused too much on internal representations.
C) it could not explain higher-level cognitive processes.
D) its ideas could not be specified mathematically.

110. Which subfield of psychology focuses on human abilities such as thinking, language, and reasoning?
A) classical conditioning
B) neo-behaviorism
C) cognitive psychology
D) behaviorism

111. Humans and animals do not always make the same response to the same stimuli. Which theory provides an explanation for this apparent randomness in learning?
A) Hull's mathematical model
B) stimulus sampling theory
C) information theory
D) radical behaviorism

112. Suppose a student is trained to press the "A" key when a high-pitched tone is played and the "B" key when a low-pitched tone is played. Even after hundreds of trials of training, the student will probably still occasionally press the wrong button. How can this be explained by stimulus sampling theory?
A) The student is tired and more prone to mistakes after so many trials.
B) The student may temporarily forget which key is the correct one after a while.
C) The connection between the tone and the key deteriorates after repeated presentation.
D) The tone activates a subset of elements that are not yet linked to the correct key.
113. Mathematical psychology was established by:
   A) Edward Tolman.
   B) William James.
   C) B. F. Skinner.
   D) W. K. Estes.

114. Gordon Bower believed that:
   A) learning is a gradual, incremental process.
   B) it is important to look at the average of learning scores.
   C) learning can be explained by a mathematical model.
   D) All of the answers are correct.

115. If a person learns a task by insight, we expect performance to:
   A) increase gradually across trials.
   B) show a sudden jump on one particular trial and remain high thereafter.
   C) show a sudden jump on one particular trial and then gradually decline.
   D) remain relatively constant across all trials.

116. What was Gordon Bower's concern regarding reporting average learning curves for a large group of people?
   A) The average may demonstrate incremental learning even if all individuals demonstrate learning by insight.
   B) The results may not be generalizable to other groups of people.
   C) The average fails to distinguish between slow and quick learners.
   D) The results from lab experiments may not apply to the real world.

117. Who adapted information theory to psychology?
   A) George Miller
   B) W. K. Estes
   C) Gordon Bower
   D) Clark Hull

118. George Miller discovered that the average digit span is:
   A) exactly 3.
   B) about 7.
   C) about 15.
   D) more than 20.

119. Which of these scientists is responsible for the number of digits in a standard phone number without the area code?
   A) John Locke
   B) Edward Thorndike
   C) David Rumelhart
   D) George Miller

120. Who proposed connectionist models of the mind?
   A) Clark Hull
   B) Gordon Bower
   C) David Rumelhart
   D) George Miller

121. Connectionist models propose that learning and memory involve:
   A) the storage and manipulation of symbols and labeled links.
   B) networks of uniform and unlabeled connections.
   C) random sampling of possible elements associated with a stimulus.
   D) a one-step process of going from ignorance to knowledge in a single trial.

122. In a distributed representation, information is stored in the:
   A) pattern of activation across many nodes.
   B) activity of a single node.
   C) comparison of the activity between two nodes.
   D) timing of the activation of two nodes.

123. If a person looks at a golden retriever and a cocker spaniel and realizes the similarity that both of them are dogs, what process is the person using?
   A) connectionist model
   B) distributed representation
   C) even distribution
   D) stimulus sampling theory
Answer Key

1. A
2. D
3. C
4. C
5. B
6. B
7. D
8. B
9. C
10. C
11. A
12. A
13. B
14. D
15. D
16. Grading criteria: Answer should discuss three of the "Top Ten Tips for a Better Memory."
17. Grading criteria: 1) Contiguity—people see dogs and cats together or hear stories that include both dogs and cats; 2) frequency—people experience both words or concepts together many times; and 3) similarity—dogs and cats are both furry, pets, animals, and so forth.
18. Grading criteria: Convey understanding that empiricists emphasize that the differences are learned from the environment, while nativists emphasize that the differences are inborn.
19. Grading criteria: Convey the idea that the current situation being encountered shares many elements in common with another situation that a person has experienced previously; because those common elements are activated, a "memory" or feeling of familiarity is evoked.
20. Grading criteria: Convey main ideas that behavioral traits, as well as physical ones, are subject to evolutionary pressures, and that the ability to learn and remember is adaptive. Ideally, give examples of how these are adaptive qualities.
21. Grading criteria: Include descriptions of relearning, variation of delay between study and test, and measuring outcomes in terms of time savings.
22. Grading criteria: IV—tick rate, DV—amount of salivation.
23. Grading criteria: Experimenter bias—if the experimenter knows which group received the drug, the passage might be read more slowly/clearly and/or their answers evaluated more leniently. Subject bias—if participants know the purpose of the study, they might act accordingly (e.g., those who receive the drug may try harder). A blind design will overcome the subject bias problem, and a double-blind design will overcome both problems.
25. Grading criteria: Must describe either positive consequences for cleaning up (e.g., a food reward, money, praise), or negative consequences for not cleaning up (e.g., grounding, taking away TV privileges).
26. Grading criteria: Convey the notion that Skinner believed all behavior was a result of learned responses—e.g., even things like emotion and language involve simply making a learned response to a stimulus.
27. Grading criteria: Define latent learning (learning that takes place, even when there is no specific training to obtain or consequence to avoid); in the example, there is no intent to learn and no need to demonstrate learning of where information is located; it is only when the information is needed that one shows that one has learned where it is.
28. Grading criteria: He believed in the importance of both internal representations and rigorous experimental control.
29. Grading criteria: Behaviorism focuses only on explicitly observable behavior and stimuli—in the case of language, a behaviorist would focus on the physical aspects of the words and sounds presented (e.g., tone, frequency, etc.), the types of responses made (what words are spoken), and the presence or absence of rewards and punishments for saying the correct words. The cognitive approach focuses on internal factors—in the case of language, the cognitive focus would be on thought processes, underlying speech, and comprehension, reasoning about text meaning, and neural processing of auditory and visual signals (letters, words, etc.).
30. Grading criteria: According to this theory, each stimulus (face) consists of many elements; as the faces are learned, only some of those elements are sampled (randomly) on each trial; and only the sampled elements become associated with the response. It may happen that, on a particular trial, a subset of the elements is activated that has not yet been strongly linked to the correct response, thus leading to such an error.
31. Grading criteria: Convey understanding that a distributed representation uses the same set of nodes to represent both concepts. Each type of chair activates a set of nodes; there will be areas of overlap between the nodes that are activated, and this overlap constitutes the more general concept.