

# Chapter 1: An Introduction to Cognitive Psychology

1-1. Which of the following statements best captures the scope of cognition?

- a. Cognition includes every internal experience that humans have.
- b. We use cognition when we store, transform, and use knowledge.
- c. Cognition primarily focuses on the higher mental processes, such as problem solving and decision making.
- d. Cognition is more concerned with visible actions, such as motor activities, than with activities that cannot be seen by an outside observer.

Ans: b                      Page(s): 2                      Difficulty: Easy

1-2. Which of the following statements is correct?

- a. A reflex such as a knee-jerk reflex is an example of cognition.
- b. Cognition refers to the acquisition and retrieval of knowledge, but not the use of that knowledge.
- c. "Cognitive psychology" is sometimes used as a synonym for "cognition."
- d. Cognitive psychology emphasizes behaviors that are observable.

Ans: c                      Page(s): 2                      Difficulty: Easy

1-3. Suppose that a psychologist writes an article on children's acquisition of gender stereotypes. Which of the following article titles would be most consistent with the cognitive approach?

- a. "How parents' reinforcement of behaviors shapes stereotypes"
- b. "The effects of classical conditioning on children's emotional reactions to gender stereotypes"
- c. "How early emotional reactions to parents influence later gender stereotypes"
- d. "Children's memory for gender-consistent information"

Ans: d                      Page(s): 2-3                      Difficulty: Moderate

1-4. Suppose that you are writing a paper about cognitive processes in elderly adults. Which of the following topics would be most relevant for your paper?

- a. Observations about their social interactions
- b. The effects of vitamin supplements on their activity level
- c. Their ability to remember people's names
- d. The relationship between their childhood experiences and current adjustment

Ans: c      Page(s): 2-3      Difficulty: Easy

1-5. Imagine that a friend of yours has been feeling depressed. He mentions that he has an appointment with a therapist who emphasizes the cognitive approach to psychological problems. The therapist will be most likely to focus on

- a. whether your friend's family has a genetic tendency toward depression.
- b. whether your friend has any unconscious emotions that could explain the depression.
- c. helping your friend to consider more appropriate explanations for some of the events that happen to him.
- d. teaching your friend to reward himself for nondepressed behavior.

Ans: c      Page(s): 2-3      Difficulty: Difficult

1-6. Suppose that a group of psychologists want to explore interpersonal interactions during adulthood. Which of the following topics would be most consistent with the cognitive approach?

- a. "How do early childhood experiences contribute to the development of love relationships during adulthood?"
- b. "Can interpersonal attraction be influenced by classical conditioning?"
- c. "When meeting someone for the first time, what attribute does a person perceive most quickly, gender or ethnicity?"
- d. "Do people spend less time with individuals who are depressed, as opposed to nondepressed?"

Ans: c      Page(s): 2-3      Difficulty: Moderate

1-7. According to the discussion at the beginning of Chapter 1, behaviorism places the most emphasis on

- a. interpersonal relationships.
- b. observable activities.
- c. unconscious emotions.
- d. mental processes.

Ans: b      Page(s): 3      Difficulty: Easy

1-8. Which of the following approaches to psychology places the most emphasis on emotions that are unconscious?

- a. the psychodynamic approach
- b. the social approach
- c. the cognitive approach
- d. the behaviorist approach

Ans: a                      Page(s): 3                      Difficulty: Easy

1-9. What does the introductory chapter conclude about the influence of cognitive approaches on other areas of psychology?

- a. Cognitive psychology has had very little influence on areas outside traditional experimental psychology.
- b. Cognitive psychology has influenced experiments in some research-oriented areas of psychology, but it has not yet had an impact on applied areas.
- c. Cognitive psychology has influenced disciplines that are concerned with the behavior of humans as individuals, but it has not yet influenced the areas of psychology concerned with social interactions.
- d. Cognitive psychology has had an important impact on a variety of areas throughout psychology.

Ans: d                      Page(s): 3                      Difficulty: Moderate

1-10. According to the introductory chapter in your textbook, the influence of cognitive psychology

- a. has been relatively weak, both within psychology and in other disciplines.
- b. has been limited primarily to areas related to education.
- c. has not yet reached applied areas of psychology.
- d. has extended to areas outside psychology, such as political science.

Ans: d                      Page(s): 3                      Difficulty: Moderate

1-11. Imagine that you are attending a lecture by a guest speaker who describes a theory and then says, "Let's now look at the empirical evidence." Which of the following would most likely be the speaker's next sentence?

- a. "Other psychologists have objected to my approach on the following theoretical grounds."
- b. "We conducted an experiment to test this hypothesis."
- c. "The theorists who belonged to the empirical school rejected the behaviorist tradition, for the following reasons."
- d. "By combining both the cognitive approach and the psychodynamic approach, we can devise a new theoretical approach to the problem."

Ans: b                      Page(s): 4                      Difficulty: Moderate

1-12. Suppose that your professor tells you that you must locate a journal article about cognitive psychology that presents empirical evidence. You should look for an article that

- a. studies humans, rather than other animals.
- b. emphasizes evidence collected in experiments.
- c. provides a theoretical explanation for previous research.
- d. uses at least two different statistical analyses.

Ans: b                      Page(s): 4                      Difficulty: Moderate

1-13. In the introspection technique,

- a. people describe what they are thinking as they perform a task.
- b. people report their experiences in a loose, unstructured fashion.
- c. the experimenter observes how people respond to learning tasks.
- d. emotional responses are emphasized, rather than thought processes.

Ans: a                      Page(s): 4                      Difficulty: Moderate

1-14. When researchers use the introspection technique,

- a. people report their sensations as accurately as possible.
- b. people report their experiences in a spontaneous, unsystematic fashion.
- c. the researchers observe how people respond to learning tasks.
- d. the researchers encourage people to interpret their reactions to the stimuli.

Ans: a                      Page(s): 4                      Difficulty: Easy

1-15. The primary contribution of Hermann Ebbinghaus to current cognitive psychology was

- a. the emphasis on ecological validity.
- b. the emphasis on research employing hundreds of subjects in each study.
- c. research about factors that might influence human memory.
- d. the notion of top-down processing.

Ans: c                      Page(s): 4                      Difficulty: Moderate

1-16. Which of the following women was an early researcher in memory who reported the recency effect—and also became the first female president of the American Psychological Association?

- a. Dorothea Dix
- b. Leta Stetter Hollingworth
- c. Mary Whiton Calkins
- d. Margaret Floy Washburn

Ans: c                      Page(s): 5                      Difficulty: Difficult

1-17. Chris just telephoned Roberta and listed eight items that they need for the afternoon picnic. Roberta didn't have a pencil, so she couldn't write them down. However, she remembers the last three items very well because of

- a. object permanence.
- b. long-term memory.
- c. an event-related potential.
- d. the recency effect.

Ans: d                      Page(s): 5                      Difficulty: Moderate

1-18. How would you describe the approach of William James?

- a. He emphasized rigorous experimentation and carefully controlled research.
- b. He asked research participants to report their sensations and perceptions as objectively as possible.
- c. He emphasized the kinds of psychological experiences that people encounter in their everyday lives.
- d. He emphasized that we must look for the unconscious forces that underlie cognitive activities.

Ans: c                      Page(s): 5                      Difficulty: Moderate

1-19. William James made his most important contributions to cognitive psychology in his work on

- a. problem solving.
- b. memory.
- c. decision making.
- d. cognitive development.

Ans: b                      Page(s): 5                      Difficulty: Moderate

1-20. In contrast to Hermann Ebbinghaus, William James was more likely to focus on

- a. well-controlled experiments.
- b. a behavioral approach to memory and language.
- c. people's everyday experiences.
- d. clear operational definitions.

Ans: c                      Page(s): 5                      Difficulty: Moderate

1-21. Which statement about the history of cognition is correct?

- a. Behaviorists favored the introspection technique.
- b. William James emphasized that the human mind is active, rather than passive.
- c. Research in cognition thrived during the period when behaviorism was strongest.
- d. Behaviorists were influential in conducting research on problem solving.

Ans: b                      Page(s): 5                      Difficulty: Moderate

1-22. Regarding the history of cognition,

- a. the issue of how humans acquire knowledge was not considered until about 100 years ago.
- b. the birthday of scientific psychology is usually traced to the first studies of John B. Watson.
- c. behaviorism is an approach that relies on objective, observable reactions.
- d. behaviorists have been primarily interested in studying images and thought processes.

Ans: c                      Page(s): 6                      Difficulty: Moderate

1-23. Which of the following research topics would be most likely to interest a behaviorist?

- a. The effect of parents' marital satisfaction on children's nightmares.
- b. The effect of praise on children's running speed.
- c. Individual differences in verbal ability.
- d. The relationship between the true size of an object and its size as represented in a mental image.

Ans: b                      Page(s): 6                      Difficulty: Easy

1-24. Which of the following students provides the most accurate summary of the behaviorists' contributions to cognitive psychology?

- a. Anton: "The behaviorists refined the introspection technique through the use of careful interview techniques."
- b. Elena: "The most important contributions of the behaviorists were related to research methodology."
- c. Yuka: "Behaviorists clarified the cognitive abilities of infants and children, especially in their research on object permanence."
- d. Jason: "Behaviorists' contributions to cognitive psychology focused on theoretical models, rather than on empirical results."

Ans: b                      Page(s): 6                      Difficulty: Moderate

1-25. An operational definition is most likely to

- a. describe precisely how the researchers will measure a particular concept.
- b. examine the correlation between two well-established variables.
- c. point out alternative explanations for the results of a study.
- d. adopt an information-processing approach, rather than a behaviorist approach.

Ans: a                      Page(s): 6                      Difficulty: Easy

- 1-26. Behaviorists and cognitive psychologists are most likely to agree on which of the following points?
- a. Researchers need to have detailed definitions about how a concept will be measured.
  - b. Researchers must emphasize the external stimuli in the environment.
  - c. Theorists must try to explain higher mental processes in terms of mental events.
  - d. Most thought processes can be explained in terms of people's observable responses to stimuli, such as the movements of the tongue that occur when a person is trying to solve a problem.

Ans: a                      Page(s): 6                      Difficulty: Difficult

- 1-27. Gestalt psychology emphasizes
- a. observable, objective reactions.
  - b. the introspective technique.
  - c. emotional causes of behavior.
  - d. the basic human tendency to organize our perceptions.

Ans: d                      Page(s): 6-7                      Difficulty: Easy

- 1-28. Which of the following early approaches to psychology developed the idea of insight during problem solving, noting that insight involves the sudden realization that the parts of a problem can be fit together to solve the problem?
- a. introspectionism
  - b. the gestalt approach
  - c. behaviorism
  - d. Ebbinghaus and his followers

Ans: b                      Page(s): 7                      Difficulty: Easy

- 1-29. A psychologist who favors the gestalt approach would be most likely to criticize the fact that behaviorists
- a. ignore the context in which a behavior occurs.
  - b. overemphasize introspection.
  - c. are not sufficiently rigorous in designing their psychological research.
  - d. pay too much attention to insight.

Ans: a                      Page(s): 7                      Difficulty: Moderate

- 1-30. Which of the following early psychologists would have been most likely to conduct research on people's memory for a story that was several pages in length?
- a. Frederick Bartlett
  - b. John B. Watson
  - c. Hermann Ebbinghaus
  - d. Wilhelm Wundt

Ans: a                      Page(s): 7                      Difficulty: Moderate

1-31. A cognitive psychologist is conducting research on how people reconstruct a memory of an event from their childhood. This psychologist's approach is most similar to the tradition of

- a. Mary Whiton Calkins.
- b. John B. Watson.
- c. Wilhelm Wundt.
- d. Frederick Bartlett.

Ans: d                      Page(s): 7                      Difficulty: Moderate

1-32. Which of the following early psychologists conducted research that could provide the most information about how people remember complex events in everyday life?

- a. Mary Whiton Calkins
- b. Frederic C. Bartlett
- c. William James
- d. Hermann Ebbinghaus

Ans: b                      Page(s): 5-7                      Difficulty: Moderate

1-33. During the 1950s, many psychologists were becoming discouraged with behaviorism, and cognitive psychology began to emerge. A major reason they were disappointed with behaviorism is that

- a. it considered only psychological processes that are clearly observable.
- b. it paid too much attention to individual differences.
- c. it failed to develop objective methods of measuring behavior.
- d. it focused too much on emotional factors, and not enough on observable behaviors.

Ans: a                      Page(s): 8                      Difficulty: Moderate

1-34. Which of the following students provides the best summary about the decline of behaviorism and the rising popularity of the cognitive approach?

- a. Sarah: "Psychologists began to realize that the behaviorists only emphasized behavior, and they admired how the cognitive approach emphasized people's emotional experiences."
- b. Harlan: "Many psychologists favored the cognitive approach, because the behaviorist approach could not account for complex thought processes."
- c. Ilia: "Most psychologists thought that the behaviorist approach was too heavily influenced by its early gestalt principles."
- d. Savita: "In general, psychologists realized that the cognitive approach was better than the behaviorist approach in explaining individual differences."

Ans: b                      Page(s): 8                      Difficulty: Difficult



- 1-35. Cognitive psychologists believe that behaviorists cannot explain human language because
- behaviorists place too much emphasis on genetic explanations.
  - behaviorists cannot provide appropriate explanations because their research rarely uses operational definitions.
  - language has a complex structure that cannot be explained in terms of stimuli and responses.
  - language is acquired in humans through adults' careful teaching of young children.

Ans: c                      Page(s): 8                      Difficulty: Difficult

- 1-36. During the late 1960s, psychologists began to favor the cognitive approach because they felt that the behaviorist approach
- emphasized unobservable cognitive processes.
  - overused Wundt's technique of introspection.
  - placed too much emphasis on concepts such as reinforcement and observable responses.
  - devoted too much research to the organization of memory.

Ans: c                      Page(s): 8                      Difficulty: Moderate

- 1-37. According to the discussion about the rise of cognitive psychology,
- enthusiasm for behaviorism decreased because it was difficult to explain complex human behavior using only the terms and concepts from learning theory.
  - the rise of the information-processing approach was independent of developments in computer science.
  - modern linguistics favors behaviorism rather than cognitive approaches.
  - behavioral approaches to human memory are still more widely accepted than cognitive approaches.

Ans: a                      Page(s): 8                      Difficulty: Moderate

- 1-38. One-year-old Sandrine was playing with her toy rabbit in her bedroom, but then she couldn't see it. She systematically looks for the rabbit because she knows it didn't simply disappear from her room. Sandrine is demonstrating
- object permanence.
  - the recency effect.
  - ecological validity.
  - sensory memory.

Ans: a                      Page(s): 8                      Difficulty: Moderate

- 1-39. Which of the following was not a factor that contributed to the increasing popularity of cognitive psychology?
- The realization that behavioral terms had limited usefulness in memory research
  - New work in linguistics that contradicted the behaviorist approach
  - The development of Piaget's theory of developmental psychology
  - The realization that psychodynamic theory could not be stated in behaviorist terminology

Ans: d                      Page(s): 8-9                      Difficulty: Moderate

1-40. The information-processing approach

- a. grew directly out of behaviorism.
- b. grew out of the early research in computer science and the communication sciences.
- c. was inspired by linguists, such as Noam Chomsky, who provided extensive analyses about the way that sentences were coded in memory.
- d. is primarily used to explain cognitive development.

Ans: b            Page(s): 9            Difficulty: Moderate

1-41. According to the information-processing approach,

- a. all information is processed at either a deep or shallow level of processing.
- b. introspection is the chief research technique; with the proper controls, introspection can be very reliable.
- c. decision-making is the primary component of all cognitive processes.
- d. mental processes can be interpreted as a flow of information, and these processes can be understood by comparison with the operations of a computer.

Ans: d            Page(s): 9            Difficulty: Moderate

1-42. A cognitive psychologist who analyzes a cognitive task in terms of a series of stages—like the way a computer operates—is using which of the following approaches?

- a. the information-processing approach
- b. the introspection approach
- c. the gestalt approach
- d. the parallel distributed processing approach

Ans: a            Page(s): 9            Difficulty: Easy

1-43. The first chapter in your textbook discusses the Atkinson-Shiffrin model as an important example of the information-processing approach. According to this model,

- a. the stimulation of one node in memory leads to the stimulation of all other connected nodes.
- b. we need to identify the neurological correlates of memory.
- c. memory can be represented as a series of stages, in which information is passed between separate storage areas.
- d. an item is more likely to be stored in memory if it is accompanied by insight.

Ans: c            Page(s): 9-10            Difficulty: Moderate

1-44. What is the name of the first storage system in the Atkinson-Shiffrin model, where stimuli from the senses initially arrive?

- a. short-term memory
- b. rehearsal storage
- c. sensory memory
- d. the phonological loop

Ans: c            Page(s): 9            Difficulty: Easy

1-45. According to Atkinson and Shiffrin's theory,

- a. there is a fuzzy boundary between short-term memory and long-term memory.
- b. material in short-term memory is fragile and may be lost unless it is somehow repeated.
- c. rehearsal has little importance.
- d. material can arrive in long-term memory before it arrives in sensory memory.

Ans: b      Page(s): 9-10      Difficulty: Moderate

1-46. Which of the following students provides the best information about short-term memory in the Atkinson-Shiffrin model?

- a. Alben: "Items in your short-term memory are often lost within 30 seconds."
- b. Maxim: "The information in short-term memory is automatically transferred to long-term memory."
- c. Candace: "Short-term memory serves as a large storage area for all sensory memories."
- d. Peter: "Short-term memory emphasizes only the visual characteristics of the stimulus."

Ans: a      Page(s): 9-10      Difficulty: Moderate

1-47. According to the Atkinson-Shiffrin model, long-term memory

- a. has a strictly limited capacity.
- b. contains only memories that arrived more than an hour ago.
- c. contains memories that are relatively permanent.
- d. contains material that is easily lost from memory.

Ans: c      Page(s): 9-10      Difficulty: Easy

1-48. What is the current status of the Atkinson-Shiffrin model of memory?

- a. Almost all of the recent research supports the model.
- b. Only the concept of sensory memory is still of interest to researchers.
- c. The theory has been completely abandoned, because there is no research support for the distinction between short-term memory and long-term memory.
- d. Some studies support the distinction between short-term memory and long-term memory, but other studies suggest that they are similar.

Ans: d      Page(s): 10      Difficulty: Moderate

- 1-49. Which of the following students provides the best summary about the current status of the information-processing approach?
- a. Alena: "The information-processing approach is gradually becoming more popular than the parallel distributed processing approach, because psychologists realize that most cognitive tasks require serial processing."
  - b. Magda: "The information-processing approach has declined in popularity during recent years, because psychologists point out that those models are not complex enough to explain many cognitive accomplishments."
  - c. Dave: "The Atkinson-Shiffrin information-processing model is still extremely popular, and it remains at the cutting edge of cognitive psychology, but most other information-processing approaches have declined in popularity."
  - d. Samuel: "The most important development in recent decades is one in which the information-processing approach has been blended with the gestalt approach, in order to explain higher mental processes such as problem solving."

Ans: b                      Page(s): 11                      Difficulty: Difficult

- 1-50. Why are cognitive psychologists less interested in the information-processing approach than they were in earlier years?
- a. They now realize that the complexity of human thinking requires more sophisticated models.
  - b. They acknowledge that behaviorist principles can explain memory more effectively.
  - c. They argue that the model does not distinguish sufficiently between short-term memory (working memory) and long-term memory.
  - d. They point out that the model only works for visual information, rather than for auditory information.

Ans: a                      Page(s): 11                      Difficulty: Moderate

- 1-51. According to the principle of ecological validity,
- a. experiments should be as carefully controlled as possible, in order to avoid confounding variables.
  - b. laboratory settings should be employed whenever possible.
  - c. behavior should be initially studied in its simplest, most basic form; more complex kinds of behavior should be studied later on.
  - d. experiments should be conducted that will have some application to experience outside the laboratory.

Ans: d                      Page(s): 12                      Difficulty: Moderate

- 1-52. Which of the following titles of research projects would have the most ecological validity?
- a. "Planning strategies used in grocery-store shopping"
  - b. "Recall for nonsense words after varying delay periods"
  - c. "Children's ability to perform abstract reasoning tasks"
  - d. "Perception of the loudness of isolated computer-generated tones"

Ans: a                      Page(s): 12                      Difficulty: Easy

1-53. Suppose that you meet a professor who is trying to determine what portions of the brain are involved in trying to recall a word that is on the tip of your tongue. This person is likely to use the approach of

- a. artificial intelligence.
- b. cognitive neuroscience.
- c. introspective psychology.
- d. behaviorism.

Ans: b            Page(s): 13            Difficulty: Easy

1-54. According to the first chapter in your textbook, research in cognitive neuroscience

- a. shows that most cognitive processes can be traced to a specific location in the brain.
- b. often obtains brain images while people are working on a cognitive task.
- c. is currently most likely to explore cognitive processes by using the brain-lesion method.
- d. has declined in its popularity during the past 10 to 15 years.

Ans: b            Page(s): 13            Difficulty: Moderate

1-55. Research on people with brain lesions

- a. focuses on the way that isolated nerve cells function.
- b. emphasizes that people who have had strokes typically never recover the ability to perform a cognitive task.
- c. is the most recent of the neuroscience approaches to cognition.
- d. involves testing people who cannot perform specific cognitive tasks after they have had a stroke, tumor, or accident.

Ans: d            Page(s): 13-14            Difficulty: Moderate

1-56. A research team is trying to discover the cognitive deficits of a man who had a stroke that affected a small portion in the left temporal lobe of his brain. This approach to studying the brain examines

- a. the single-cell recording technique.
- b. brain lesions.
- c. parallel distributed processing.
- d. the event-related potential technique.

Ans: b            Page(s): 13-14            Difficulty: Moderate

1-57. Some cognitive neuroscientists study brain lesions to learn more about brain functions. However, an important problem with this technique is that

- a. the brain damage may extend into several areas of the brain.
- b. this technique is low in ecological validity.
- c. it requires using a radioactive chemical, which may be dangerous.
- d. it cannot be used in studying humans or other primates.

Ans: a            Page(s): 13-14            Difficulty: Moderate

- 1-58. When neuroscientists use PET scans (positron emission tomography),
- they assess the regions of the brain in which blood flow increases while a person is performing a task.
  - they record the neural impulses from one neuron in the human brain.
  - they stimulate a brain region in a patient who has suffered from a stroke or tumor.
  - they place electrodes on a person's scalp.

Ans: a      Page(s): 14      Difficulty: Moderate

- 1-59. Which of the following students provides the best understanding of the PET scan technique?
- Princetta: "PET scans record fluctuations in the brain activity that are completed within a fraction of a second."
  - Lisa: "Unfortunately, the PET scan can only be used for someone who has a brain lesion."
  - Jeff: "A PET scan is basically a very fast version of the event-related potential."
  - Jamie: "The PET scan creates an image based on a chemical that travels through the bloodstream."

Ans: d      Page(s): 14      Difficulty: Moderate

- 1-60. In contrast to a PET scan, the fMRI technique
- requires an injection of a radioactive chemical.
  - provides more precise information when measuring a series of events in the brain.
  - is more accurate in determining what a person is thinking, for instance, whether the thoughts are pleasant or unpleasant.
  - involves placing electrodes on a person's scalp.

Ans: b      Page(s): 14-15      Difficulty: Difficult

- 1-61. Suppose that you know a woman who will be having an fMRI (functional Magnetic Resonance Imaging). She can expect that
- the blood flow in her cortex will be measured.
  - the electrical activity in a series of neurons will be measured.
  - a scanner will record changes in oxygen atoms in tissues in the brain.
  - a small lesion will be created in a damaged part of her brain.

Ans: c      Page(s): 14-15      Difficulty: Moderate

- 1-62. How does the functional Magnetic Resonance Imaging technique (fMRI) compare with other imaging techniques?
- Although it requires more processing time than PET scans, it is much more widely available.
  - It is more effective than the PET scan in measuring brain activity that occurs rapidly.
  - It provides the most precise information about the timing of various brain activities.
  - It produces images that are roughly comparable to the ERP technique.

Ans: b      Page(s): 15      Difficulty: Difficult

1-63. A researcher wants to study how people's attention shifts when they see a visual stimulus in an unexpected portion of a screen that they are viewing; this attention shift occurs in just a fraction of a second. Which of the following techniques is this researcher most likely to use?

- a. the single-cell recording technique
- b. a positron emission tomography (PET) scan
- c. the functional magnetic resonance imaging technique (fMRI)
- d. the event-related potential technique (ERP)

Ans: d            Page(s): 15-16      Difficulty: Difficult

1-64. Suppose that you want to see whether the human brain responds differently when a person reads a pleasant word, rather than an unpleasant word. Which of the following neuroscience techniques would provide the most useful information about processing these two kinds of words?

- a. The event-related potential technique
- b. The single-cell recording technique
- c. The brain-lesion technique
- d. The positron emission tomography scan

Ans: a            Page(s): 15-16      Difficulty: Moderate.

1-65. The single-cell recording technique might be used if a researcher wanted to

- a. design a computer program that imitates the behavior of a human who is solving one portion (or cell) in a complex problem.
- b. measure the blood flow to one cell in the brain.
- c. conduct a well-controlled, ecologically valid experiment on concept formation.
- d. measures the nerve impulses from one neuron in the brain of a monkey.

Ans: d            Page(s): 16            Difficulty: Moderate

1-66. Researchers would be especially likely to use the single-cell recording technique if they want to

- a. assess the amount of brain damage in a person who has had a stroke.
- b. determine the electrical activity that is generated in response to a stimulus.
- c. measure humans' ability to adapt to a stimulus that is continuously repeated.
- d. see whether a person's cognitive processes are more accurate after injecting carefully selected chemical substances.

Ans: b            Page(s): 16            Difficulty: Moderate

- 1-67. Chapter 1 describes the classic research by Hubel and Wiesel, using the single-cell recording technique. These researchers discovered that
- a. the cortex is designed to process numerous external stimuli at the same time.
  - b. the parallel distributed processing approach is the most accurate method for explaining how we recognize 3-dimensional objects.
  - c. certain cells in the visual cortex are sensitive to lines that have a specific orientation.
  - d. the gestalt psychologists had appropriately described perception; cells in the visual cortex can recognize complete objects more accurately than the parts of those objects.

Ans: c            Page(s): 16            Difficulty: Difficult

- 1-68. Hubel and Wiesel discovered that some kinds of cells in the visual cortex respond especially vigorously to a line presented in a particular orientation. This research has the most important implications for which of the following topics?
- a. Determining which portion of the brain can be stimulated to help individuals who are visually impaired
  - b. Conducting research using the fMRI technique
  - c. Developing models using the parallel distributed processing approach
  - d. Predicting which letters of the alphabet are most likely to be confused with each other

Ans: d            Page(s): 16            Difficulty: Moderate

- 1-69. According to your textbook, the artificial intelligence (AI) approach
- a. creates computer models that demonstrate intelligent behavior.
  - b. emphasizes that humans possess a central processing mechanism that has unlimited capacity.
  - c. is currently too vague and nonspecific to be tested.
  - d. focuses on the development of cognitive abilities during childhood.

Ans: a            Page(s): 16-17            Difficulty: Easy

- 1-70. Some researchers believe that the human brain works like a complex, sophisticated machine. This approach is called
- a. the gestalt approach.
  - b. the analogy approach.
  - c. the computer metaphor.
  - d. the lesion approach.

Ans: c            Page(s): 17            Difficulty: Easy



1-71. In Chapter 1, your textbook concludes that the computer metaphor cannot accurately represent all aspects of a human's cognitive processes. However, one way in which the computer metaphor is accurate is that both the computer and a human mind

- a. have complex goals.
- b. can understand complicated language.
- c. have extensive background knowledge.
- d. have limited capacities for processing information.

Ans: d            Page(s): 17            Difficulty: Difficult

1-72. Researchers in artificial intelligence argue that

- a. both the human brain and the computer have central-processing mechanisms with limited capacities.
- b. human memory distinguishes between short-term memory and long-term memory, whereas computer systems have no comparable distinction.
- c. neither the human mind nor the computer can compare symbols.
- d. a flowchart designed in connection with a computer bears little resemblance to human mental processes.

Ans: a            Page(s): 17            Difficulty: Difficult

1-73. The term "pure AI" refers to

- a. research that considers human limitations in cognitive processing.
- b. an approach that attempts to accomplish a task as efficiently as possible.
- c. an emphasis on the ecological validity of research in cognitive psychology.
- d. a technique used in neuroscience that involves recordings from a single cell.

Ans: b            Page(s): 17-18            Difficulty: Moderate

1-74. According to Chapter 1 in your textbook, the computer-simulation method

- a. attempts to explain how a computer can perform a cognitive task as quickly as possible.
- b. is not yet sophisticated enough to perform any cognitive task as efficiently as humans can.
- c. typically produces an idealized version of how humans should perform a cognitive task, rather than how they actually do perform it.
- d. tries to create a program that performs a cognitive task in the same way that humans would perform it.

Ans: d            Page(s): 18            Difficulty: Moderate

1-75. Suppose that a group of cognitive scientists is trying to program a computer so that it solves a particular problem in the same way a human does, taking into account that a human may make a few false starts before successfully solving the problem. This approach is called

- a. the neuroscience approach.
- b. behavioral modeling.
- c. the "Pure AI" approach.
- d. computer simulation.

Ans: d                      Page(s): 18                      Difficulty: Moderate

1-76. Imagine that some researchers are trying to design a computer-simulation model for an arithmetic task. They would be most likely to

- a. begin by using the single-cell recording technique, and then gradually shift to the fMRI technique.
- b. design a system that solves each arithmetic problem as quickly as possible.
- c. examine the way people's strategies change as they become more familiar with the task.
- d. create a system that uses a problem-solving technique that is similar to the way humans would solve the problem.

Ans: d                      Page(s):18                      Difficulty: Moderate

1-77. One of the characteristics of the human brain that is especially important in the parallel distributed processing approach is that the brain

- a. is divided into several distinct lobes.
- b. has two hemispheres that are somewhat similar to each other.
- c. has many connections among the neurons.
- d. has a very specific location in which it performs each cognitive activity.

Ans: c                      Page(s): 19                      Difficulty: Moderate

1-78. An important characteristic of the parallel distributed processing approach to cognition is that

- a. it handles information by processing it one step at a time.
- b. it first analyzes an object's shape, then its size, and then its color.
- c. it can perform many operations at the same time.
- d. it predicts that humans perform cognitive tasks much more accurately than they actually do.

Ans: c                      Page(s): 19                      Difficulty: Moderate

1-79. Suppose that you look up from this exam and immediately perceive a scene that includes students, desks, and classroom walls. In order to perceive it quickly, you are probably using

- a. serial processing.
- b. parallel processing.
- c. ecological validity.
- d. metacognition.

Ans: b      Page(s): 19-20      Difficulty: Easy

1-80. An important difference between the classical AI approach and the parallel distributed processing approach is that the classical AI approach

- a. is designed to resemble the human brain.
- b. proceeds one step at a time.
- c. is more successful in explaining rapid cognitive processes.
- d. emphasizes motivational goals as well as cognitive tasks.

Ans: b      Page(s): 19-20      Difficulty: Difficult

1-81. An important characteristic of the parallel distributed processing approach is that

- a. the neural activity that corresponds to a particular cognitive activity is typically limited to a single small location.
- b. many cognitive activities rely on serial operations.
- c. it is flexible enough to explain many cognitive skills.
- d. it can only explain higher mental processes.

Ans: c      Page(s): 20      Difficulty: Moderate

1-82. Cognitive science is

- a. an earlier version of modern behaviorism.
- b. a new approach for treating psychological disorders.
- c. an interdisciplinary field that explores questions about the mind.
- d. the application of principles from cognitive psychology to industry and other real-world settings.

Ans: c      Page(s): 20      Difficulty: Moderate

1-83. Which of the following interests is shared by all researchers within the discipline of cognitive science?

- a. internal representations of the world
- b. individual differences
- c. emotions that underlie thought
- d. problem solving

Ans: a      Page(s): 20      Difficulty: Moderate

1-84. An important feature of cognitive science is that it emphasizes

- a. the interrelations between emotions and cognition.
- b. an interdisciplinary approach.
- c. that all mental processes should be explained in biological terms.
- d. that researchers should focus on individual differences in performance.

Ans: b            Page(s): 20            Difficulty: Easy

1-85. According to the introduction to your textbook, perceptual processes

- a. use previous knowledge in order to interpret the stimuli that are registered by our senses.
- b. are primarily concerned with concept formation.
- c. include pattern recognition, but not attention.
- d. are governed by behaviorist principles.

Ans: a            Page(s): 21            Difficulty: Easy

1-86. Metacognition refers to

- a. your thoughts about your cognitive processes.
- b. a statistical technique that combines the results from a variety of studies on the same topic.
- c. the application of cognitive psychology in everyday, naturalistic situations.
- d. the use of computers to model human cognitive activity.

Ans: a            Page(s): 22            Difficulty: Moderate

1-87. Which of the following is the best example of a schema?

- a. your realization that the word orange is closer to the word fruit than it is to the word tennis
- b. your tendency to read familiar words more quickly than unfamiliar words
- c. your understanding that the concept "dentist's office" includes a waiting room and a receptionist, but not video games
- d. your ability to reach for your car's turn signal on the left side of the steering wheel, even if you could not verbally describe where it is located

Ans: c            Page(s): 22            Difficulty: Moderate

1-88. Suppose that you hear about a research project in linguistics that is exploring the topic called discourse. Which of the following would be the most likely topic for this research?

- a. the sound of the individual letters within a word
- b. whether students can recognize the grammatical category of words
- c. students' awareness about the past tense of verbs
- d. the conclusions that students draw about how a story should end

Ans: d            Page(s): 22            Difficulty: Moderate

1-89. Which of the following is true about cognition?

- a. Most cognitive processes can be studied in isolation, without reference to other processes.
- b. Although some cognitive processes are active, most are passive.
- c. Most cognitive theories propose that humans continually examine the world for information.
- d. The cognitive processes handle neutral information better than positive information.

Ans: c            Page(s): 23-24      Difficulty: Moderate

1-90. According to the themes of your textbook,

- a. our cognitive processes typically operate independently of one another.
- b. our cognitive processes occur automatically.
- c. our cognitive processes are quite accurate; errors can often be traced to strategies that are useful in other situations.
- d. we react to negative information more efficiently than we react to positive information.

Ans: c            Page(s): 23-24      Difficulty: Moderate

1-91. According to the discussion of the themes of the textbook,

- a. negative information is consistently easier to process than positive information, because it is more startling.
- b. our cognitive processes are interrelated with one another.
- c. our higher mental processes generally operate independently of the more basic mental processes.
- d. in general, cognitive processes are not very inaccurate.

Ans: b            Page(s): 23-24      Difficulty: Moderate

1-92. Suppose that you are accustomed to a certain bus stopping on a specific corner near your college campus. A bus stops, and you "recognize" it to be the customary bus. You fail to notice that the side of the bus has a totally different company name. The process that led to your misidentifying the bus is called

- a. serial processing.
- b. parallel processing.
- c. bottom-up processing.
- d. top-down processing.

Ans: d            Page(s): 24            Difficulty: Moderate

1-93. The kind of processing that emphasizes how your sensory receptors register information is called

- a. serial processing.
- b. parallel processing.
- c. bottom-up processing.
- d. top-down processing.

Ans: c            Page(s): 24            Difficulty: Easy

- 1-94. Suppose that you attend a lecture on the bottom-up processes involved in speech perception. The lecturer is likely to emphasize
- a. how the listener's auditory system registers and transmits information about the speech sounds.
  - b. the listener's familiarity with the language.
  - c. the listener's knowledge of rule-governed language systems.
  - d. the listener's expectations about what the speaker will say.

Ans: a                      Page(s): 24                      Difficulty: Moderate

- 1-95. One of the themes of your textbook focuses on bottom-up and top-down processing. According to this theme,
- a. the phrase "top-down processing" points out the importance of the information contained in the stimulus.
  - b. bottom-up processing is almost always more important than top-down processing.
  - c. top-down processing is more important in childhood, but bottom-up processing is more important in adulthood.
  - d. both top-down processing and bottom-up processing operate at the same time, so that our cognitive processes can operate efficiently.

Ans: d                      Page(s): 24                      Difficulty: Moderate

- 1-96. Which of the following students provides the most accurate interpretation of one of the themes of the textbook?
- a. Daquan: "In general, our cognitive processes may operate quickly, but we make numerous errors."
  - b. Jessica: "In general, our cognitive processes tend to be passive, unless we make a special effort."
  - c. Sam: "We are typically better in processing negative information, rather than positive information."
  - d. Sophie: "Many cognitive processes emphasize both top-down processing and bottom-up processing."

Ans: d                      Page(s): 24                      Difficulty: Moderate