Multiple Choice

1. What do the preface to Wundt’s *Principles of Physiological Psychology* and the original constitution of the American Psychological Association have in common?
   1. they both defined psychology as the study of behavior
   2. they both recognized that psychology was a subdivision of philosophy
   3. they both emphasized the scientific nature of the new psychology
   4. they both defined psychology as the study of the mind
2. A research methods course differs from a course in developmental psychology by emphasizing
   1. process over content
   2. content over process
   3. basic rather than applied research
   4. applied rather than basic research
3. A research methods course is to a social psychology course as \_\_\_\_\_\_ is to \_\_\_\_\_\_.
   1. content; process
   2. process; content
   3. scientific; nonscientific
   4. philosophy; sociology
4. Which of the following is notlisted in the text as a reason for taking a research methods course?
   1. it helps the student become a critical consumer of information
   2. it is essential for admission to most graduate schools
   3. it is the most important course in the psychology curriculum for achieving self-understanding
   4. it provides a foundation for achieving a better understanding of other psychology courses
5. Why is it important for professional psychologists to be familiar with research methods?
   1. they might need to perform an evaluation to determine the effectiveness of an agency’s program
   2. they might need to critically evaluate the scientific evidence for the effectiveness of some new clinical treatment for depression
   3. both alternatives a. and b. are true
   4. none of the above—professional psychologists only need to apply the results of research; they need not be familiar with how the research was done
6. When students assume that their textbook must be correct, they are relying on \_\_\_\_\_\_\_\_\_ as a way of knowing.
   1. the a priori method
   2. experience
   3. creativity
   4. authority
7. Which of the following is true about relying on authority as a way of searching for the truth?
   1. the authority could be wrong
   2. it is a problem for nonscientists but not for scientists
   3. it is almost certain that the authority’s knowledge is based on subjective experience only
   4. authority should seldom if ever be believed–people should discover things for themselves
8. Relying on authority as a basis for fixing belief is illustrated by which of the following statements?
   1. Because all events have causes, there must be some First Cause, namely God
   2. Why do I know it? I just know it, that’s all
   3. My country, right or wrong
   4. It just stands to reason that animals with a cortex must have some level of consciousness
9. Ted argues that the mind equals the brain. His argument is based on the assertion that the mind ceases to function when the brain ceases to function. This illustrates which of Peirce’s ways of fixing belief?
   1. the a priori method
   2. the method of direct experience
   3. the scientific method
   4. the method of authority
10. As a way of fixing belief, Peirce’s *a priori* method relies heavily on
    1. belief perseverance
    2. drawing conclusions from making systematic observations of nature
    3. relying on the expertise of others
    4. convincing others through logical arguments
11. Peirce was critical about the a priori method as a way of fixing belief because
    1. it was especially prone to a confirmation bias
    2. the use of logic is not really needed for arriving at truth
    3. it really meant nothing more than relying on authority
    4. carefully reasoned arguments can produce opposite conclusions
12. The problem with relying on a belief that “experience is the best teacher” is that
    1. our experiences might be limited and influenced by bias
    2. our experiences seldom provide any information about what life is like
    3. relying on experience makes us overlook the most important source of knowledge—authorities
    4. none of the above—personal experience is the *only* reliable way to truth
13. If our experiences include some unforgettable events, we might overestimate how often those kinds of events occur. This is called
    1. belief perseverance
    2. a confirmation bias
    3. the availability heuristic
    4. the a priori heuristic
14. Our experiences can be a valuable guide to the truth, but drawing firm conclusions from experience can be affected by our tendencies to ignore events that don’t support our beliefs. That is, we sometimes
    1. use the availability heuristic
    2. have a confirmation bias
    3. decide on the truth on the basis of logic rather than direct experience
    4. rely too much on introspection
15. According to Thomas Kuhn, it is generally a good thing for scientists to hang on to their pet theories tenaciously. Why?
    1. they seem more human that way
    2. by seeking out controversies with other scientists, they keep their aging minds sharp
    3. by vigorously advocating their theory, it won’t be abandoned without a thorough test
    4. none of the above—because they are objective, dispassionate, and ruled only by data, “tenacity” is not a term that characterizes scientists
16. Relying on Peirce’s *a priori* method as a way of fixing belief is illustrated by which of the following statements?
    1. Because all events have causes, there must be some First Cause greater than all the rest
    2. My country, right or wrong
    3. Nothing will ever convince me that men have been on the moon
    4. Of course it’s right—it was in the book
17. Students sometimes change their answers on multiple-choice questions. Many students believe that the most common outcome is that they change from the correct answer to a wrong answer, despite research that shows that students more often change from an incorrect answer to a correct one. What accounts for the strength of this erroneous belief?
    1. scientific thinking via logical deduction
    2. social cognition biases that distort their beliefs of their experiences
    3. a priori thinking—they reason that it would have been better to go with the first hunch or instinct
    4. none of the above—students in fact believe that they are successful when they change answers
18. As psychologists use the term, determinism means that
    1. free choice does not exist
    2. all the events of our lives have been “determined” ahead of time
    3. every event has a cause that can be known and discovered with certainty
    4. events can be predicted with greater than chance probability
19. Research psychologists believe all of the following except
    1. the causes of behavior can be discovered by using scientific methods
    2. if statistical determinism is true, then free choices cannot be made
    3. it may not be possible to predict behavior with certainty
    4. making effective choices requires that events be predictable
20. What did the philosopher Rudolph Carnap have to say about human freedom of choice?
    1. free choices are really determined ahead of time by fate
    2. the concept is meaningless if determinism is true
    3. because determinism is true, we might think we have free choice, but we don’t
    4. the ability to make meaningful choices demands that events be orderly and predictable
21. A major characteristic of psychological science is its objectivity, which means that
    1. science is free from human biases
    2. psychologists assume that people are essentially machines
    3. observations can be verified by more than a single observer
    4. results of research are always reported in terms of numbers (statistics)
22. An objective observation is one
    1. that can only be made by a mechanical recording device
    2. completely free from any personal bias on the part of the observer
    3. that can be verified by a second observer
    4. that cannot be questioned
23. The major shortcoming with introspection as a method was that
    1. it relied too heavily on the a priori method
    2. it was used to answer philosophical rather than empirical questions
    3. it relied too heavily on direct observations of behavior
    4. observations could not be verified—they were too subjective
24. The method of introspection was gradually replaced by behavioral methods because
    1. the latter were more objective
    2. the latter yielded more in depth descriptions of one’s personal experience
    3. introspection required considerable training but no training is required to use behavioral methods
    4. behavioral methods allowed a closer examination of mental processes
25. To be data driven is to
    1. insist on empirical support for assertions
    2. use scientific methods even when they are inappropriate
    3. collect more data than is really necessary in order to answer an empirical question
    4. insist that the only valid question is an empirical question
26. Scientific thinking by psychologists is characterized by all of the following except
    1. they realize that conclusions are tentative and could change depending on future research
    2. they are most interested in finding answers to the “big” questions (e.g., mind-body)
    3. they expect claims to be supported by data collected in a systematic fashion
    4. they assume that behavior has causes that can be discovered using scientific methods
27. With which of the following attributes of scientific thinking is most likely to confuse and frustrate the general public?
    1. the desire for objectivity
    2. the emphasis of supporting claims with data
    3. the recognition that conclusions are tentative
    4. the reliance on empirical questions
28. Questions that can be answered through systematic observation and data collection are called
    1. introspective questions
    2. authoritative questions
    3. empirical questions
    4. nonempirical questions
29. Which of the following is most clearly phrased as an empirical question?
    1. Are newborns essentially good or bad?
    2. Do Catholics believe in the reality of Hell?
    3. Are the mind and body two separate entities?
    4. Is there life after death?
30. Empirical questions
    1. are answerable with objective data
    2. cannot be answered via scientific methods
    3. are best answered through Peirce’s a priori method
    4. can only be answered relying on accounts of personal experiences
31. Which of the following is not an empirical question?
    1. Can prayer reduce blood pressure?
    2. Are prayers regularly answered by God?
    3. Do college seniors pray for different things than college freshmen?
    4. none of these are empirical questions — prayer is too private
32. Phrenology originated in the legitimate scientific attempt to
    1. find a good measure of personality
    2. prove that humans were descended from apes
    3. study localization of brain function
    4. none of the above—like other pseudosciences, phrenology had no connection with legitimate science
33. Phrenology eventually failed as science because
    1. it was shown that localization of brain function does not occur
    2. its measures failed the test of objectivity
    3. it avoided disproof by having an explanation for every possible outcome
    4. it abandoned its use of the anecdotal method
34. Which of the following is true about graphology?
    1. it relies on anecdotes as supporting evidence
    2. it reduces complexity to simplicity
    3. it uses multiple measurements and calculations to appear scientific
    4. all of the above
35. All of the following generally characterize pseudoscience except
    1. they try to confuse the naive by associating with concepts from legitimate science
    2. they rely exclusively on anecdotal evidence for support
    3. they cannot be adequately falsified
    4. they take simple concepts and make them seem overly complex
36. Which of the following is true about pseudoscience?
    1. pseudosciences seldom last very long because they are so easily falsified
    2. to create apparent legitimacy, they take simple phenomena and add unnecessary complexity
    3. pseudoscientific theories are flexible enough to account for any outcome and are therefore untestable as theories
    4. all science eventually becomes pseudoscience
37. In general, pseudoscientific theories
    1. take fairly simple behavioral phenomena and overly complicate them
    2. recognize the weakness of relying on anecdotal evidence
    3. avoid disproof by describing their studies in vague terms
    4. reject the idea that their theories should be tested by collecting empirical data
38. People often will believe that learning graphology will allow them to assess one’s personality. One reason is motivational—having spent $30, they convince themselves of the value of the experience and work harder to bring about the desired outcome. This phenomenon is called
    1. confirmation bias
    2. belief perseverance
    3. availability heuristic
    4. effort justification
39. A way to scientifically test (and potentially falsify) graphology’s claims is to
    1. collect writing samples whose topics are not about the individual (e.g., copy a piece of text)
    2. compare graphology’s results with those of valid and reliable personality tests
    3. avoid anecdotal evidence
    4. all of the above
40. Researchers studying children and attempting to develop a classification system for children’s play are illustrating which of psychology’s goals?
    1. description
    2. prediction
    3. explanation
    4. control
41. Regular and predictable relationships between variables are called
    1. explanations
    2. theories
    3. predictions
    4. laws
42. Which of the following is not an important factor when determining that X is causing Y to occur?
    1. X and Y covary
    2. X and Y should occur simultaneously
    3. alternative explanations for Y can be ruled out
    4. variation in X produces predictable variation in Y
43. Psychologists would conclude that frustration was a cause of aggression if it could be shown that
    1. when frustration occurred, aggression also occurred with some regularity
    2. other explanations for the aggression could be ruled out under the circumstances
    3. the frustration preceded the aggression
    4. all of the above
44. When psychologists use the various principles that have been established through research to help people, they are meeting the goal of
    1. description
    2. prediction
    3. explanation
    4. application
45. Which of the following is an example of describing behavior?
    1. students with test anxiety should perform better on oral than written tests
    2. test anxiety results from an early history of school failure
    3. test anxiety can be reduced through relaxation training
    4. test anxious subjects left the exam sooner than non-anxious subjects
46. Which of the following is an example of predicting behavior?
    1. students with test anxiety should perform better on oral than written tests
    2. test anxiety results from an early history of school failure
    3. test anxiety can be reduced through relaxation training
    4. test anxious subjects left the exam sooner than non-anxious subjects
47. “Ergonomic” psychologists develop airplane dials that are fool proof. That is, pilots cannot inadvertently turn them the wrong way. This demonstrates the use of which of psychology’s goals?
    1. description
    2. explanation
    3. prediction
    4. application
48. The statement “Many students likely fear taking the research methods course” is an example of \_\_\_\_\_\_\_\_ behavior; the statement “The fear of taking the research methods course is caused by unfounded gossip” is an example of \_\_\_\_\_\_\_\_\_ behavior.
    1. describing; explaining
    2. describing; predicting
    3. explaining; predicting
    4. predicting; explaining
49. Eleanor Gibson’s creation of the visual cliff was motivated by her interest in
    1. the ability to perceive details at great distance
    2. the perception of depth
    3. experimental extinction of a conditioned response
    4. discovering an alternative to introspection
50. B. F. Skinner first uncovered evidence of extinction in his laboratory when
    1. he repeated Pavlov’s famous experiments (i.e., followed authority)
    2. he reasoned that an absence of reinforcement would eliminate a behavior
    3. his apparatus malfunctioned
    4. he forgot to feed his animals

Answers—Multiple Choice

1. C 26. B

2. A 27. C

3. B 28. C

4. C 29. B

5. C 30. A

6. D 31. B

7. A 32. C

8. C 33. C

9. A 34. D

10. D 35. D

11. D 36. C

12. A 37. C

13. C 38. D

14. B 39. D

15. C 40. A

16. A 41. D

17. B 42. B

18. D 43. D

19. B 44. D

20. D 45. D

21. C 46. A

22. C 47. D

23. D 48. A

24. A 49. B

25. A 50. C

Fill-in the Blanks

1. Peirce called the use of logical arguments to fix a belief the \_\_\_\_\_\_\_\_\_ method.
2. To assume that all events have causes is to make the assumption of \_\_\_\_\_\_\_.
3. To say that experience is the best teacher is to rely on \_\_\_\_\_\_\_\_\_\_ as a way of knowing.
4. The goal of prediction in psychology results from the discovery of regular and predictable relationships between events, otherwise known as \_\_\_\_\_\_\_\_\_\_.
5. “Is vision necessary for maze learning?” is an example of a(n) \_\_\_\_\_\_\_\_\_\_ question.
6. Introspection fell into disfavor in psychology because introspective descriptions lacked \_\_\_\_\_\_\_\_\_\_\_\_.
7. Psychology’s goal of \_\_\_\_\_\_\_\_ is accomplished when knowledge about memory is used to help someone improve the ability to recall information.
8. To say that someone is \_\_\_\_\_\_\_\_\_ is to say that they only feel confident of an assertion when it is based on empirical data.
9. Fixing belief by relying on \_\_\_\_\_\_\_\_ occurs when students fail to question their professors.
10. After a tragic and much publicized plane crash, Ed came to believe that air travel was not as safe as traveling by car; Ed was a victim of the \_\_\_\_\_\_\_\_\_\_\_\_\_ heuristic.

Answers—Fill-in the Blanks

1. a priori
2. determinism
3. empiricism
4. laws
5. empirical
6. objectivity
7. application
8. data driven
9. authority
10. availability

Short Essay Questions

1. Explain why the research methods course is considered to be an essential foundation for all the remaining courses in the psychology curriculum.
2. Describe how our experience-blased knowledge of the world can be distorted by the availability heuristic.
3. Describe how our experience-based knowledge of the world can be distorted by a confirmation bias.
4. What was Peirce’s a priori method and how did he criticize it as a way of knowing?
5. What was Peirce’s method of authority and how did he criticize it as a way of knowing?
6. In psychology’s history, introspective accounts of mental experiences were eventually replaced by reports of overt behavior. What does this have to do with the concept of objectivity?
7. In what manner does graphology try to associate itself with true science?
8. Using phrenology as an example, explain what is meant by the assertion that “pseudoscience sidesteps disproof?”
9. Explain how psychologists use the term “cause.” For example, under what conditions would psychologists make the statement “frustration causes aggression?”
10. Chapter 1 ends with descriptions of the research of two well-known psychologists, Gibson and Skinner. Although their research is quite different, what attributes do they share?

Comprehensive Essay Questions

1. Chapter 1 focuses on scientific thinking as a way of knowing. Yet we often rely on other methods for “fixing belief,” as Peirce put it. Using the belief held by Nazis in the 1930s that Jews were an inferior race, show how such a belief could be formed and maintained through the nonscientific ways of knowing.
2. Explain what distinguishes empirical from nonempirical questions and give two example of each.
3. Describe the essential features of pseudoscience, using phrenology (or graphology) as an example.
4. Describe the four main goals of psychological science and use an example of each goal to illustrate your points.
5. Psychological scientists make the assumptions of determinism and discoverability. What do they mean by these terms and why do they consider them an essential part of their belief system?