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Chapter: Chapter 1: Multiple-Choice

Multiple Choice

1. What is the primary reason the author introduces the three-door problem?
A) to introduce students to the three goals of scientific research
B) to describe the three methods psychologists use to conduct research
C) to provide insight into how people acquire knowledge and beliefs
D) to present an analogy that illustrates how research affects real-life decisions

Ans: C
Level: M
Type: Applied
Page: 2
Topic: The three-door problem

2. A newspaper reporter decides to write a story about the three-door problem and its implications for understanding science, probability, and how we understand the world. Which of these would be the best title for the proposed article?
A) Why we should never bet against chance: Lessons learned the hard way
B) Common sense versus actual data: Decision-making is quite difficult
C) Relying on the experts: Our best chance to make good decisions
D) The best advice: Know when to fold them, know when to hold them

Ans: B
Level: H
Type: Applied
Page: 2
Topic: The three-door problem

3. As part of a research requirement in an Introduction to Psychology class, Alex is taking part in the three-door game in which he might win a car or a goat. After selecting one of the three doors, he has a choice of staying with his current door or switching. What is the best advice that you would give Alex in order to increase his chance of winning?

- A) It is best to switch.
- B) Go with your first hunch, do not switch.
- C) If you switch, your odds of winning are only 50-50, so stay put.
- D) Your selection makes no difference, as the game is rigged in favor of the "house."

Ans: A
Level: M
Type: Applied
Page: 3
Topic: The three-door problem

4. A student is taking part in the three-door problem as part of a research requirement. What are the odds that this student will "win" if he decides to switch doors?

- A) 2 to 1 in his favor
- B) even odds of winning or losing
- C) 2 to 1 against winning
- D) just over 50% chance of winning

Ans: A
Level: M
Type: Factual
Page: 3
Topic: The three-door problem

5. Your textbook mentions that, in 1990 Marilyn vos Savant became involved in the three-door problem via her newspaper column. What was the general reaction of the public and academics to her suggestion that the best approach is to switch doors?

- A) Most people recognized she had solved the problem correctly.
- B) She was seen as having made an error in offering her solution.
- C) Academics accepted her solution but the general public did not.
- D) Her solution was obvious to almost everyone once she explained it in detail.

Ans: B

Level: E

Type: Factual

Page: 3

Topic: The three-door problem

6. Beth is reading an article about the 1990 three-door controversy involving the “Ask Marilyn” column, which was also mentioned in your textbook. In the article, she reads a number of potential solutions to the three-door problem. Which of the following best describes Marilyn vos Savant’s controversial answer to the three-door problem?

- A) The participant should “switch” because this will increase his/her odds of winning to 2/3.
- B) The participant should “switch” because this will increase his/her odds of winning to 50/50.
- C) The participant should “stay” because this will increase his/her odds of winning to 1/3.
- D) The participant should “stay” because this will increase his/her odds of winning to 50/50.

Ans: A

Level: H

Type: Factual

Page: 3

Topic: The three-door problem

7. Dr. Stanley Milgram conducted a famous research study on *Obedience*. Before revealing his findings, he asked a group of psychiatrists to predict what percentage of participants would administer 450 volts of shock to a confederate when ordered to do so by a researcher. Milgram’s question is most consistent with which concept?

- A) tenacity
- B) authority
- C) reason
- D) experimentation

Ans: B

Level: E

Type: Applied

Page: 4-5

Topic: Authority: Knowledge gained from others

8. A neighbor believes “all this nonsense” about global warming is hype. He notes that it still snows in winter and it has always been hot in the summer. What way of knowing has your neighbor embraced?

- A) tenacity
- B) authority
- C) reason
- D) experimentation

Ans: A

Level: E

Type: Applied

Page: 4

Topic: Tenacity: Knowing by force of habit

9. Political scientists have described a group of voters who tend not to seek out new information, do not challenge their long-held beliefs, and hold to their views because they always seemed “to have worked” in that past. If these political scientists were to name this group of voters, which term would be consistent with the description in your textbook of Charles Peirce’s views of how we come to hold beliefs?

- A) rationale self-interest
- B) tenacity
- C) direct experience
- D) authority

Ans: B

Level: E

Type: Applied

Page: 4

Topic: Tenacity: Knowing by force of habit

10. As described in your textbook, Charles Peirce described one of the four ways we come to hold beliefs with these words: “strength, simplicity, and directness.” Which method fits this description?

- A) reason
- B) science
- C) tenacity

D) authority

Ans: C

Level: E

Type: Factual

Page: 4

Topic: Tenacity: Knowing by force of habit

11. For decades, scientists and the general public were convinced that gastric ulcers resulted from a high level of difficult decision-making and the treatment was a bland diet. We now know this view is simply wrong. What is one likely explanation that this incorrect view of the cause of ulcers was held on for so long before being completely dismantled?

A) tenacity

B) reasoning

C) empiricism

D) operationism

Ans: A

Level: M

Type: Applied

Page: 4

Topic: Tenacity: Knowing by force of habit

12. What is one advantage of relying on authority to acquire knowledge?

A) Authorities have access to more knowledge than the general public.

B) An authority is an unbiased source of information.

C) Reliance on authority is an efficient way to pass down knowledge.

D) Reliance on authority reduces the need to validate the claims that are made.

Ans: C

Level: E

Type: Factual

Page: 5

Topic: Authority: Knowledge gained from others

13. As mentioned in your textbook, philosopher and scientist Charles Peirce described four methods by which people come to hold beliefs about the world. Which of the following is one of the four methods described by Peirce?

- A) persistence
- B) diligence
- C) effort
- D) authority

Ans: D

Level: E

Type: Factual

Page: 4

Topic: Tenacity: Knowing by force of habit

14. Which of the following animal analogies best exemplifies philosopher and scientist Charles Peirce's description of tenacity.

- A) a crab burying its body in the sand for a mid-day nap
- B) an ostrich hiding its head in the ground and no longer seeing danger
- C) an opossum "playing dead" to deter dangerous predators
- D) a bulldog walking through the forest without making a sound

Ans: B

Level: H

Type: Applied

Page: 4

Topic: Tenacity: Knowing by force of habit

15. Ralph is in the Army. As a result, he does whatever his commanding officer orders him to do. This situation exemplifies which of the following methods by which people come to hold beliefs about the world?

- A) tenacity
- B) authority
- C) reason
- D) science

Ans: B

Level: E

Type: Applied

Page: 4

Topic: Authority: Knowledge gained from others

16. In geography class, a substitute teacher misinforms her students by telling them that there are no deserts in the continental United States. The students believe her. This situation exemplifies which of the following methods by which people come to hold beliefs about the world?

- A) tenacity
- B) authority
- C) reason
- D) science

Ans: B

Level: E

Type: Applied

Page: 4

Topic: Authority: Knowledge gained from others

17. On a “Rate my Professor” website where students write reviews of their former professors, Jenny reads that Dr. Zwiebel-Pferd is the easiest professor for the Neuroscience course in which she needs to enroll. Based on this review, Jenny enrolls in Dr. Zwiebel-Pferd’s course. This situation exemplifies which of the following methods by which people come to hold beliefs about the world?

- A) tenacity
- B) authority
- C) reason
- D) science

Ans: B

Level: E

Type: Applied

Page: 4

Topic: Authority: Knowledge gained from others

18. Philosopher René Descartes and his contemporaries considered the mind-body problem—the question of whether the mind is an entity separate from the body. This situation exemplifies which of the following methods by which people come to hold beliefs about the world?

- A) tenacity
- B) authority

- C) reason
- D) science

Ans: C

Level: H

Type: Applied

Page: 6

Topic: Reason: Relying on logic and rationality

19. The Molyneux problem is a good example of which way to acquire knowledge?

- A) reason
- B) authority
- C) tenacity
- D) science

Ans: A

Level: E

Type: Factual

Page: 6

Topic: Reason: Relying on logic and rationality

20. Which of the questions is the best description of the Molyneux problem?

- A) Would people who become color blind still remember the names of the colors they had learned?
- B) Would a blind person who recovers sight be able to distinguish objects by sight?
- C) Why do children learn language apparently with ease, yet the same children struggle to learn another language in high school or later?
- D) Is tactual contact necessary for the proper development of a child?

Ans: B

Level: E

Type: Factual

Page: 6

Topic: Reason: Relying on logic and rationality

21. Over three centuries ago, this question was posed—Suppose that a man, blind from birth, can use his sense of touch to distinguish between a cube and a sphere of the same size. If this

man suddenly regains his eyesight and is shown the cube and sphere, would he be able to tell by sight alone which object is which? What is the name of this famous query?

- A) the Molyneux problem
- B) the motion parallax
- C) the three-door problem
- D) the tenacity parallax

Ans: A

Level: E

Type: Factual

Page: 6

Topic: Reason: Relying on logic and rationality

22. Developing knowledge by collecting and assessing information directly through our senses is a description of which approach to how we gain knowledge?

- A) nativism
- B) sensation
- C) empiricism
- D) correlation

Ans: C

Level: E

Type: Factual

Page: 7

Topic: Empiricism: Knowledge based on experience

23. Our tendency to selectively seek information that supports our views and avoid disconfirming information is termed:

- A) confirmation bias.
- B) validation bias.
- C) endorsement bias.
- D) verification bias.

Ans: A

Level: E

Type: Factual

Page: 8

Topic: Empiricism: Knowledge based on experience

24. A student wants to learn the best way to solve the three-door problem. She decides to watch several individuals attempt to solve the problem and takes notes as she observes. From this data, she decides on a strategy she believes will give her the best chance of winning the car. What approach has this student used to arrive at her approach to solving the problem?

- A) tenacity
- B) reasoning
- C) authority
- D) empiricism

Ans: D

Level: M

Type: Applied

Page: 8

Topic: Empiricism: Knowledge based on experience

25. Most of the people who doubted the solution to the three-door problem that was published in "Ask Marilyn," even after the details of the solution were given, seemed to rely on which method of acquiring information?

- A) tenacity
- B) reasoning
- C) authority
- D) empiricism

Ans: A

Level: M

Type: Applied

Page: 8-9

Topic: Science: Relying on systematic empiricism

26. What term is part of another name for confirmation bias?

- A) availability
- B) congeniality
- C) framing
- D) representativeness

Ans: B

Level: E

Type: Factual

Page: 8

Topic: Empiricism: Knowledge based on experience

27. What was the most convincing method that was used to demonstrate the actual odds of winning in the three-door problems?

- A) reliance on reason
- B) running simulations in classes
- C) reading opinions of experts on probability
- D) recognizing that chance is all that is involved

Ans: B

Level: M

Type: Factual

Page: 9

Topic: Science: Relying on systematic empiricism

28. Which of the following is a fundamental objective of science?

- A) description
- B) clarification
- C) discipline
- D) replication

Ans: A

Level: H

Type: Factual

Page: 9

Topic: Goals of science

29. Dr. Miller and a group of graduate students were interested in studying risk-taking behaviors in college students. To do this, they visited a “semester kick-off” party hosted by one of the more prominent fraternities on their campus. The researchers’ goal was to count the number of times male and female college students engaged in risky behaviors such as consuming alcohol to excess. What basic goal of science was addressed in this study?

- A) description
- B) explanation
- C) prediction
- D) control

Ans: A
Level: M
Type: Applied
Page: 10
Topic: Description

30. Based on previous studies, Dr. Sharma hypothesizes that a family history of alcoholism will predispose students to binge drink during college. What basic goal of science is being addressed in this scenario?

- A) description
- B) explanation
- C) replication
- D) control

Ans: B
Level: M
Type: Applied
Page: 10
Topic: Explanation

31. In her research, Dr. Kelly records videos of doctor-patient interactions and then applies a coding system to categorize these interactions into analyzable units. What basic goal of science is being addressed in this scenario?

- A) description
- B) explanation
- C) replication
- D) control

Ans: A
Level: M
Type: Applied
Page: 10
Topic: Description

32. Dr. Graham is interested in understanding brain reward mechanisms. In her research, she records participants' brain activity as they view a variety of tasty desserts. What basic goal of science is being addressed in this scenario?

- A) description
- B) explanation
- C) replication
- D) control

Ans: B

Level: M

Type: Applied

Page: 10

Topic: Explanation

33. During a seminar in the department of psychology, Arnold and his friends listened to a visiting speaker describe her research. As the speaker described how she developed a coding system for her research, Arnold thought to himself, "It sounds like this will be a talk about a(n) _____ research study."

- A) descriptive
- B) explanatory
- C) predictive
- D) controlled

Ans: A

Level: M

Type: Applied

Page: 10

Topic: Description

34. A psychologist wants to write a book about research and use a title that best summarizes what that research is all about. Which title would best convey the essence of the psychologist's research efforts?

- A) Focus on the individual: The roots of psychology
- B) Research limited by inability to manipulate key factors
- C) Variables: Associations, causes, control, and prediction
- D) Knowledge under conditions of uncertainty: Knowing the unknowable

Ans: C

Level: H

Type: Applied

Page: 10

Topic: Goals of science

35. Which of these is the most likely example of the development of a coding system by a psychologist for use in research?

- A) using statistics to make a prediction about future success in class
- B) creating a system for categorizing facial expressions related to anxiety
- C) comparing the intelligence of boys and girls in the fourth grade
- D) gathering data on known predictors of heart disease in a group of retired people

Ans: B

Level: M

Type: Applied

Page: 10

Topic: Description

36. A tentative proposition about the causes or outcome of an event is a(n):

- A) theory.
- B) hypothesis.
- C) causal chain.
- D) assumption.

Ans: B

Level: E

Type: Factual

Page: 10

Topic: Explanation

37. A set of formal statements that specifies how and why variables or events are related is a(n):

- A) theory.
- B) hypothesis.
- C) causal chain.
- D) assumption.

Ans: A

Level: E

Type: Factual

Page: 10

Topic: Explanation

38. In this scientific perspective, explanations of human behavior typically involve genes, hormones, and brain functioning.

- A) psychological
- B) biopsychological
- C) environmental
- D) cognitive

Ans: B

Level: E

Type: Factual

Page: 11

Topic: Explanation

39. In this scientific perspective, explanations of human behavior typically focus on the effects of physical stimuli and social experiences.

- A) psychological
- B) biopsychological
- C) environmental
- D) cognitive

Ans: C

Level: E

Type: Factual

Page: 11

Topic: Explanation

40. In this scientific perspective, explanations of human behavior typically focus on participants' conscious and unconscious motivations.

- A) psychological
- B) biopsychological
- C) environmental
- D) cognitive

Ans: A

Level: M
Type: Factual
Page: 11
Topic: Explanation

41. In this scientific perspective, explanations of human behavior typically focus on processes of attention, memory, and decision-making.

- A) psychological
- B) biopsychological
- C) environmental
- D) cognitive

Ans: D
Level: H
Type: Factual
Page: 11
Topic: Goals of science

42. Based on a review of the existing literature on night terrors in children, a psychologist suggests that the disorder may have a biological cause related to heart rate. This statement is best described by which term?

- A) hypothesis
- B) theory
- C) control
- D) falsifiable

Ans: A
Level: H
Type: Applied
Page: 10
Topic: Explanation

43. Which statement is the best description of the relation of hypotheses and theories?

- A) Theories are more focused than hypotheses.
- B) Hypotheses are tentative statements that can lead to theories.
- C) Hypotheses can lead to theories, but theories cannot lead to hypotheses.
- D) Hypotheses are mere hunches; theories are more sophisticated and well developed.

Ans: B
Level: H
Type: Applied
Page: 10
Topic: Explanation

44. A marketing researcher is videotaping shoppers as they make their way through narrow aisles of a department store. The researcher notices that each time a shopper has his/her backside “brushed,” the shopper moves on, even putting back items that he/she might have been looking at. As described here, this research is most consistent with which goal of research?

- A) description
- B) explanation
- C) prediction
- D) control

Ans: A
Level: H
Type: Applied
Page: 10
Topic: Goals of science

45. Which of the following is the best example of a theory?

- A) Beauty is in the eye of the beholder.
- B) The volume of sound can be measure by units called decibels.
- C) A psychologist believes that humans possess a gene for evil.
- D) Freud’s effort to explain the structure and workings of human personality.

Ans: D
Level: H
Type: Applied
Page: 10
Topic: Explanation

46. A psychologist decides to write a book about how and why psychologists explain human behavior. Which of the following would make for the best title for this proposed book?

- A) Explaining human behavior: So many influences

- B) Why so much of our behavior is unconscious
- C) How biological factors are dominant in so many behaviors
- D) So many perspectives, so much to explain: Which perspective explains the most

Ans: D

Level: H

Type: Applied

Page: 11

Topic: Explanation

47. A lawyer is borrowing some terminology he heard in a psychology course. It seems that a client was involved in an accident in which the client had consumed some sleep medication earlier in the day. The accident involved crossing a double yellow line due to excessive speed. The lawyer argued that the side effects of the drug were, in part, responsible for the accident. In making this argument, the lawyer is focused on what type of cause?

- A) distal
- B) proximate
- C) personal
- D) correlated

Ans: A

Level: H

Type: Applied

Page: 11

Topic: Explanation

48. The statement that variable X caused variable Y is an example of:

- A) causal inference.
- B) plausible alternative explanation.
- C) causal assumption.
- D) cognitive dissonance.

Ans: A

Level: E

Type: Factual

Page: 12

Topic: Explanation

49. An otherwise healthy but alcohol dependent adult patient exhibits abnormalities of brain electrophysiology. Suppose that brain electrophysiology was not measured before this patient began his drinking career. This situation illustrates a case in which causal inference is not possible because the condition of _____ has not been established.

- A) covariation
- B) temporal order
- C) absence of plausible alternative explanation
- D) replication

Ans: B

Level: H

Type: Applied

Page: 12

Topic: Explanation

50. Consider the following sentence: If people consume an excessive number of calories each day, then they will be more likely to gain weight. This sentence illustrates which of the following?

- A) prediction
- B) description
- C) control
- D) assumption

Ans: A

Level: M

Type: Applied

Page: 12

Topic: Goals of science

51. Consider the following sentence: If people eat less and exercise more, then they will be more likely to lose weight. This sentence illustrates which of the following?

- A) prediction
- B) description
- C) control
- D) assumption

Ans: A

Level: M

Type: Applied

Page: 12

Topic: Goals of science

52. Suppose that a researcher hypothesizes that high temperatures in the classroom are related to poor test performance. If the researcher hopes to perform the study with a high level of control, which of the following study designs would you suggest?

- A) Obtain daily temperature reports for a given university region in 2012 and see if these correlate with that university's test scores during the same time period.
- B) Gradually increase the classroom temperature over the course of a semester and see if anyone notices.
- C) In a laboratory setting, administer a series of recall tests to research participants under different temperature conditions, such that each participant completes the test at four different temperature settings, and see if higher temperatures correspond with lower recall scores across the group.
- D) Compare test scores from a warm region of the country with those from a cold region of the country to see if the test scores from the colder region will be higher.

Ans: C

Level: M

Type: Applied

Page: 13

Topic: Control

53. Connie is designing a research study in which she will compare the standardized test performance of two groups of 18-year-old women. All of the tests will occur on Wednesday at 2pm, in a brightly-lit laboratory, which has been meticulously decorated to look like a classroom. Participants will have a maximum of 50 minutes to complete their testing session. The same female research assistant will administer all of the tests. The way in which Connie is designing her study suggests that she is most interested in which of the following?

- A) prediction
- B) description
- C) control
- D) assumption

Ans: C

Level: M

Type: Applied

Page: 13

Topic: Goals of science

54. College admissions officers are interested in determining the impact of high school grade point average on subsequent college performance. This type of research likely falls into which of the following categories?

- A) prediction
- B) description
- C) control
- D) assumption

Ans: A

Level: M

Type: Applied

Page: 13

Topic: Goals of science

55. Melanie's project for her research methods class involves standing in the health and diet section of her local supermarket and taking note of the personal characteristics of shoppers who purchase herbal diet pills. This type of research likely falls into which of the following categories?

- A) prediction
- B) description
- C) control
- D) assumption

Ans: B

Level: M

Type: Applied

Page: 10

Topic: Goals of science

56. A researcher recently found that students who take notes on a laptop tend to perform better than those who take notes by hand. Suppose the researcher concludes that the use of a laptop causes the better grades. What might you suggest that the researcher consider before making such a claim?

- A) The use of a laptop makes it easier to organize notes, which may be responsible for the better grades.
- B) Students might be using the laptops to check their e-mail instead of taking notes.
- C) Students may be distracted by the presence of laptops in class.

D) Laptops enable students to engage in social networking during class.

Ans: A

Level: H

Type: Applied

Page: 12

Topic: Explanation

57. What are two of the major roles that prediction serves in research?

A) hypothesis/theory testing and applied prediction

B) description and control

C) identifying provable hypotheses and explaining phenomena

D) developing operational definitions and using hypotheses to develop theories

Ans: A

Level: M

Type: Factual

Page: 12

Topic: Prediction

58. You enter a classroom where you know the previous class was one on research methods. You notice the words “if-then” on the board and you are quite confident that the topic of the class that day included which of the following?

A) generalization

B) control

C) hypotheses

D) empiricism

Ans: C

Level: M

Type: Applied

Page: 12

Topic: Prediction

59. A psychologist has found a relation between levels of extraversion and the amount of insurance policies sold by a group of insurance salespeople. The psychologist suggests that the Human Resource office might be able to make use of this information in personnel selection.

Assume that the Human Resources office makes use of this research, this would be a good example of which goal of research?

- A) control
- B) description
- C) explanation
- D) prediction

Ans: C

Level: H

Type: Applied

Page: 12

Topic: Goals of science

60. Which of the following is the best example of a psychologist focused on the control of behavior?

- A) implementing a program of relaxation to reduce the incidence of insomnia
- B) checking the relation between time spent studying and grades on an exam
- C) collecting data on when children use two-word “sentences” for the first time
- D) determining the relation between cholesterol levels and the probability of developing cardiac problems

Ans: A

Level: H

Type: Applied

Page: 13

Topic: Control

61. Which of the following sentences is listed as a basic scientific assumption about the natural world?

- A) Events are not random.
- B) Patterns are independent of underlying causes.
- C) Underlying causes are related to replication.
- D) Replication of findings is mandatory.

Ans: A

Level: E

Type: Factual

Page: 15

Topic: Science involves assumptions

62. Agent Mulder believes that “The truth is out there.” This is an example of a scientific:

- A) assumption.
- B) explanation.
- C) description.
- D) causation.

Ans: A

Level: H

Type: Factual

Page: 15

Topic: Characteristics of science

63. When a claim can be tested through observation it is:

- A) assumptive.
- B) empirical.
- C) tenacious.
- D) reasonable.

Ans: B

Level: E

Type: Factual

Page: 15

Topic: Science focuses on testable questions

64. A psychic claims to be able to predict the future and is willing to demonstrate his skills. He looks at your hand and begins, “You have a great need to be admired. I see success in your future. You are sometimes introverted and sometimes extroverted....” A psychologist who wishes to test this “psychic’s” ability will need to focus especially on which of the following concepts in formulating a research effort?

- A) falsifiability
- B) correlation
- C) empiricism
- D) objectivity

Ans: A

Level: H

Type: Applied

Page: 16

Topic: Science focuses on testable questions

65. Which of the following is a correct pairing of an individual and that person's contribution to science?

- A) Karl Popper and falsifiability
- B) John Locke and nativism
- C) Marilyn vos Savant and the laws of probability
- D) Charles Peirce and the experimental method

Ans: A

Level: M

Type: Factual

Page: 16

Topic: Science focuses on testable questions

66. In principle, an assertion is testable if we can envision gathering some type of empirical evidence that will reveal the assertion to be false. This is the definition of:

- A) false prediction.
- B) falsifiability.
- C) faulty operationalism.
- D) falsification.

Ans: B

Level: E

Type: Factual

Page: 16

Topic: Science focuses on testable questions

67. A highly experienced teacher is giving lectures on what it takes to be an excellent teacher. One of the teacher's keys is to be passionate. In order to clearly describe his point, he makes a list of the specific behaviors that indicate passion for the course material. Clearly, this experienced teacher has an excellent grip on which of the following?

- A) prediction
- B) falsifiability
- C) operational definitions

D) quantitative analysis

Ans: C

Level: M

Type: Applied

Page: 18

Topic: Science requires clear definitions and operationism

68. Imagine a psychologist who films a basketball game in which a referee is making one of the most difficult calls, a block or a charge. Half of the fans in the arena are for Central High and the other half are from North High. They react predictably to the call. This psychologist is most likely creating an example that illustrates the importance of which of the following?

A) objectivity

B) tenacity

C) control

D) prediction

Ans: A

Level: M

Type: Applied

Page: 17

Topic: Characteristics of science

69. The famous case of an especially rough football game between Princeton and Dartmouth is a demonstration of the concept known as:

A) objectivity.

B) tenacity.

C) control.

D) prediction.

Ans: A

Level: E

Type: Factual

Page: 17

Topic: Characteristics of science

70. Dr. Graham is an assistant professor at a large research university. Her goal is to obtain tenure and promotion to associate professor. To reach this goal, Dr. Graham should focus on which of the following?

- A) enhancing her credentials by publishing her research
- B) enhancing her reputation through word-of-mouth
- C) enhancing her social skills through workshops presented by the Human Resources department
- D) enhancing her teaching skills by paying close attention to her students' evaluations

Ans: A

Level: H

Type: Applied

Page: 18

Topic: Science involves public reporting

71. Nadia and Vladimir are writing a research paper. Which of the following references should they choose as their source of up-to-date scientific information?

- A) a recently published textbook
- B) a recently published peer-reviewed journal
- C) a recently published non-peer-reviewed journal
- D) the webpage of a scientific organization

Ans: B

Level: H

Type: Applied

Page: 18

Topic: Science involves public reporting

72. Your class requires each student to give a 20-minute presentation on a proposed research project. After your teacher says he is looking for "good presentations," you ask for a definition of "good." You seem to have a proper understanding of which concept?

- A) reductionism
- B) falsifiability
- C) operationism
- D) reliability

Ans: C

Level: M

Type: Applied

Page: 18

Topic: Characteristics of science

73. Your co-worker invites you to make a wager regarding how long it will take before the new manager gets angry at one of her employees. Before agreeing to the wager, you first ask your co-worker for a specific definition of “getting angry.” You seem to have a good understanding of which concept?

- A) reductionism
- B) falsifiability
- C) operationism
- D) reliability

Ans: C

Level: M

Type: Applied

Page: 18

Topic: Characteristics of science

74. What is one of the most important and defensible reasons that research is reported publicly?

- A) to provide a basis for granting tenure and promotion to faculty
- B) to allow all citizens to know how government grant money has been spent
- C) to provide a forum for evaluating the claims that have been made
- D) to train future scientists by actively taking part in the process

Ans: C

Level: E

Type: Factual

Page: 18

Topic: Science involves public reporting

75. A journal editor sends potential articles out to be read by other experts in the field and then takes into account their comments when making decisions about publication. This is the definition of a(n) _____ journal.

- A) peer-reviewed
- B) scientific
- C) scholarly
- D) non-peer-reviewed

Ans: A
Level: E
Type: Factual
Page: 18
Topic: Science involves public reporting

76. A new assistant professor is eager to submit her first professional article for review and publication. She also hopes to write about her experience of submitting her first article. Which of these would make for the best title of her article about her experience?

- A) How the web makes peer-review irrelevant
- B) Many are submitted but few are published
- C) Articles are routinely published to share information rapidly
- D) Public or perish: No longer the guide for the profession

Ans: B
Level: H
Type: Applied
Page: 18-19
Topic: Science involves public reporting

77. What is the most likely range of rejection of an article submitted to a peer-reviewed journal?

- A) 10-20%
- B) 30-40%
- C) 75-85%
- D) 95-98%

Ans: C
Level: E
Type: Factual
Page: 19
Topic: Science involves public reporting

78. A study of the use of humor in class finds that students who attend classes where appropriate (related to the material) humor is used to help students perform better on exams. After this research was published, several researchers tried to replicate the finding, but were consistently unable to do so. When the researcher decides to publish their own findings, what title might they select?

- A) Lack of objectivity in humor in the classroom
- B) Humor and learning: Questionable validity
- C) Correlation is not causation
- D) Lack of control is not a laughing matter

Ans: C

Level: H

Type: Applied

Page: 19

Topic: Scientific knowledge is tentative, not absolute

79. One advantage of science is it is designed to correct its past errors. Which of the following is one of those errors that has since been corrected?

- A) Negative reinforcement is more effective than positive reinforcement.
- B) Children do not develop object permanence until age 12 months.
- C) Humans are the only species that makes use of tools.
- D) Schizophrenia has a genetic basis.

Ans: C

Level: H

Type: Applied

Page: 19

Topic: Scientific knowledge is tentative, not absolute

80. Dr. West is a researcher who studies the molecular anatomy of the developing limbs in a specific type of frog. This sort of study is likely to be classified as _____ research.

- A) applied
- B) animal
- C) basic
- D) genetic

Ans: C

Level: H

Type: Applied

Page: 20

Topic: Basic and applied research

81. Dr. North is conducting a study entitled "Stereociliary motion in hair bundles." This sort of study is likely to be classified as _____ research.

- A) applied
- B) animal
- C) basic
- D) genetic

Ans: C

Level: H

Type: Applied

Page: 20

Topic: Basic and applied research

82. Dr. East is writing a grant entitled "Association between happiness and quality of life after abdominal surgery." This sort of study is likely to be classified as _____ research.

- A) applied
- B) animal
- C) basic
- D) genetic

Ans: A

Level: H

Type: Applied

Page: 20

Topic: Basic and applied research

83. Dr. South has published an article entitled "Patient's perceptions of nursing care in small private hospitals." This sort of study is likely to be classified as _____ research.

- A) applied
- B) animal
- C) basic
- D) genetic

Ans: A

Level: H

Type: Applied

Page: 20

Topic: Basic and applied research

84. Which of the questions below is one that scientists are best equipped to answer?

- A) Should people be more religious than they are now?
- B) How many people consider themselves to be religious?
- C) What is the scientific basis for belief in an afterlife?
- D) Which religious belief should more people follow?

Ans: B

Level: M

Type: Applied

Page: 20

Topic: Science has limitations

85. As mentioned in your textbook, a group of scientists asked, “What is the absolute threshold at which humans can detect horizontal acceleration?” How was this study categorized?

- A) applied
- B) clinical
- C) basic
- D) genetic

Ans: C

Level: M

Type: Factual

Page: 21

Topic: Basic and applied research

86. As mentioned in your textbook, a group of scientists asked, “How would horizontal sway in tall office buildings affect the workers in those buildings?” How was this study categorized?

- A) applied
- B) clinical
- C) basic
- D) genetic

Ans: A

Level: M

Type: Factual

Page: 21

Topic: Basic and applied research

87. As mentioned in your textbook, psychologists studied the degree to which people could detect the sway of very tall buildings such as the World Trade Center in New York City. As a result of this research, what change was made in the building design?

- A) Architects reduced the number of windows to reduce the feeling of sway.
- B) Structural reinforcement was added to the building to deal with potential sway.
- C) The walls of the buildings were painted in more “earth” colors to calm occupants who might find the sway uncomfortable.
- D) Additional speakers were installed to carry music at louder levels to distract from the sense of sway.

Ans: B

Level: M

Type: Factual

Page: 21

Topic: Basic and applied research

88. Which of these is the best description of the relation between basic and applied research efforts?

- A) the two exist on a continuum
- B) the two typically are independent of one another
- C) applied research typically feeds and directs basic research
- d) basic research must be completed before applied research can be conducted

Ans: A

Level: M

Type: Applied

Page: 21-22

Topic: Basic and applied research

89. Prior to building the World Trade Center buildings in New York City, engineers were concerned about how people would react to the swaying of such tall buildings. A psychologist was able to inform their work by conducting research that focused on which major area of psychology?

- A) learning
- B) consciousness
- C) brain anatomy
- D) sensation/perception

Ans: D
Level: E
Type: Factual
Page: 21
Topic: Basic and applied research

90. Charlotte has just completed her sophomore year of college. After graduation, she plans to apply to a Ph.D. program in biological psychology. She has a 3.75 overall grade point average (GPA), and she has received high scores for her research methods and statistics courses. Based on her usual standardized test performance, she expects that her Graduate Record Examination (GRE) scores will meet or exceed the requirements for a Ph.D. program. As she embarks on her last 2 years of college, which of the following activities would be most likely to improve Charlotte's chances of being accepted to graduate school in biological psychology?
- A) improving her overall GPA
 - B) taking an expensive GRE prep course
 - C) gaining research experience in the laboratory setting
 - D) interning with a charitable organization to help tornado victims

Ans: C
Level: H
Type: Applied
Page: 24
Topic: Benefits of learning about research methods

91. A freshman in Introduction to Psychology is so excited about the material that she decides to major in psychology and plans to go to graduate school. Her advisor would be certain to tell her to be sure that which of the following courses are part of her undergraduate program of study?
- A) abnormal and cognitive psychology
 - B) learning and physiology
 - C) research methods and statistics
 - D) testing and measurement

Ans: C
Level: E
Type: Factual
Page: 24
Topic: Benefits of learning about research methods

92. According to a survey of graduate school programs in psychology, which course is the most often listed by these programs as either required or preferred for admission?

- A) statistics
- B) abnormal psychology
- C) theories of learning
- D) physiological psychology

Ans: A

Level: E

Type: Factual

Page: 24

Topic: Benefits of learning about research methods

93. Carla, a psychology major, is watching a television infomercial in which a salesman describes a new method for cutting vegetables. The product is supposedly cheaper, safer, and more efficient than the cumbersome, traditional methods. Which of Carla's classes is most likely to provide her with the skills she will need to critically evaluate this infomercial?

- A) developmental psychology
- B) abnormal psychology
- C) research methods
- D) sensation and perception

Ans: C

Level: E

Type: Applied

Page: 24

Topic: Benefits of learning about research methods

94. According to your textbook, which of the following recommendation letters would carry the most weight in an application to a graduate program in psychology?

- A) a letter from a psychology professor in whose course you received an "A"
- B) a letter from your cousin, who is an instructor in modern languages at Harvard
- C) a letter from your manager at your after-school job working for a charitable organization
- D) a letter from your research advisor with whom you have completed several projects

Ans: D

Level: H

Type: Applied

Page: 24

Topic: Benefits of learning about research methods

95. Lance and Carla are watching a television infomercial in which a salesman describes a new method for cutting vegetables. The product is supposedly cheaper, safer, and more efficient than the cumbersome, traditional methods. Carla questions the validity of the claims before deciding whether or not to accept them. Carla is most likely to endorse which of the following outlooks?

- A) skepticism
- B) cynicism
- C) opportunism
- D) nihilism

Ans: A

Level: E

Type: Applied

Page: 25

Topic: Skepticism, science, and everyday life

96. Lance and Carla are watching a television infomercial in which a salesman describes a new method for cutting vegetables. The product is supposedly cheaper, safer, and more efficient than traditional methods. From the outset, Lance disbelieves and distrusts everything that the salesman says. Lance is most likely to endorse which of the following outlooks?

- A) skepticism
- B) cynicism
- C) opportunism
- D) nihilism

Ans: B

Level: E

Type: Applied

Page: 25

Topic: What is skepticism?

97. During the last Presidential Committee, one political party was convinced that its candidate would win, despite a wide collection of independent polls that pointed out that the outcome would likely be exactly the opposite. What lesson might we learn from the poor predictions from the last presidential campaign?

- A) The timing of a survey is the most important factor in assessing its accuracy.
- B) When your sample is not representative, your results may not be accurate.
- C) A single word in a survey can make all the difference in the results.
- D) Most people do not tell the truth when they answer political questions.

Ans: B

Level: H

Type: Applied

Page: 25

Topic: Skepticism, science, and everyday life

98. Imagine that the governor of Missouri is a big fan of psychology and decides to use his state's motto, "The show me state" to advertise a key concept of psychological research efforts on Missouri license plates. Which concept might he select?

- A) operationism
- B) authority
- C) reasoning
- D) skepticism

Ans: D

Level: M

Type: Applied

Page: 25

Topic: Skepticism, science, and everyday life

99. Which of the following conditions might describe the relation of skepticism and critical thinking?

- A) covariation
- B) authority
- C) reasoning
- D) operationism

Ans: A

Level: E

Type: Applied

Page: 25

Topic: Skepticism, science, and everyday life

100. A psychologist wishes to write a column describing the importance of critical thinking. Which of these titles would likely make for the best choice?

- A) Never be fooled again
- B) Relying on a new set of authorities
- C) A new set of rules for finding truth
- D) Critical thinking: In and out of the classroom

Ans: D

Level: H

Type: Applied

Page: 25

Topic: Skepticism, science, and everyday life

Import Settings:
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Information Field: Difficulty
Information Field: Question Type
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Chapter: Chapter 1: Scenarios

Multiple Choice

Reference: Ref 1-1

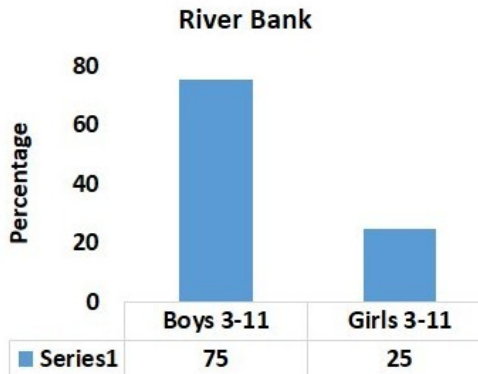
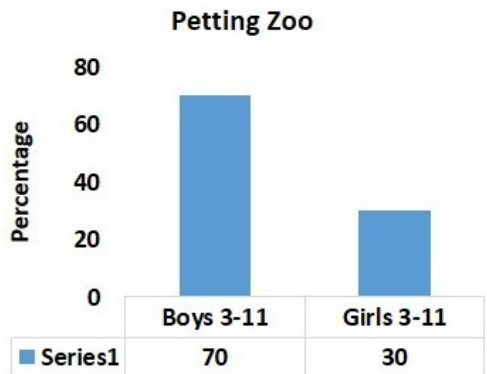
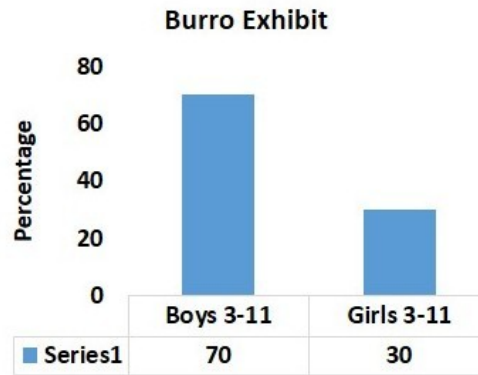
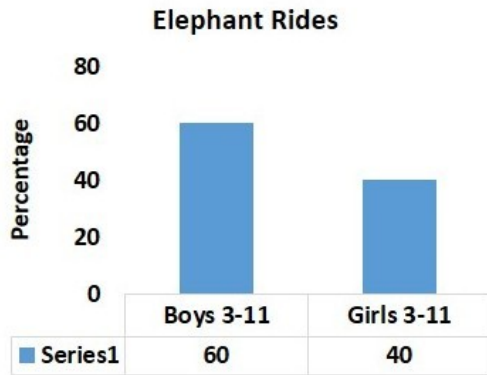
Scenario I

Scenario I is based on and presents fabricated data inspired by the following study:

Ginsburg, H.J. & Miller, S. M. (1982). Sex differences in children's risk-taking behavior. *Child Development*, 53, 426–428. <http://www.jstor.org/stable/1128985>

A Day at the Zoo

Ginsburg and Miller were interested in learning about risk-taking behaviors among young children. To this end, they observed 480 3- to 11-year-old children at a large metropolitan zoo in the South Central United States. Frequency counts were made at the entrance of the zoo and indicated that boys and girls were equally represented at the zoo on the day of the study. Then, frequency counts of boys and girls were made at four different risk-taking locations within the zoo: an elephant ride, a burro exhibit, a children's petting zoo, and along a steep river embankment. Risky activity at the elephant ride was considered to be attempting a ride without accompanying adult. At the burro exhibit, risk-taking was defined as touching the burro in view of a sign stating "do not touch; burro bites." Risky activity at the petting zoo involved feeding animals without adult assistance. Merely walking on the steep river embankment was considered a risky behavior. Results for this study are shown below.



1. (Scenario I) What basic goal of science was addressed in this study?

- A) description
- B) explanation
- C) prediction
- D) control

Ans: A

Refer to: Ref 1-1

Topic: Goals of Science

Page: 10

2. (Scenario I) Consider this sentence: “At the burro exhibit, risk-taking was defined as touching the burro in view of a sign stating “do not touch; burro bites.” Inclusion of this sentence in the methodological section of Ginsburg and Miller’s research article is a good example of which of the following?

- A) assumption
- B) semantic encoding

- C) tenacity
- D) operationism

Ans: D

Refer to: Ref 1-1

Topic: Characteristics of Science

Page: 18

3. (Scenario I) Which of the following terms is the best to describe Ginsburg and Miller's research?

- A) basic
- B) clinical
- C) applied
- D) ethical

Ans: C

Refer to: Ref 1-1

Topic: Basic and Applied Research

Page: 21

4. (Scenario I) What additional information, not included above, would be essential for assessing the validity of Ginsburg and Miller's claims as they apply to everyday life?

- A) the percentage of male vs. female children who entered the zoo
- B) the percentage of children who were accompanied by a supervisory adult
- C) the percentage of children who entered the park as part of a birthday party
- D) the percentage of children who visited the gorilla exhibit

Ans: B

Refer to: Ref 1-1

Topic: Skepticism, Science, and Everyday Life

Page: 25

5. (Scenario I) Based on the information given above, which of the following conclusions could reasonably be supported by the results of the study?

- A) Compared to boys, girls may be more likely to take risks in everyday life.
- B) Boys take more animal-related risks, but girls take more water-related risks.
- C) Overall, the zoo is a place where a lot of risky behavior occurs.

D) Compared to girls, boys may be more likely to take risks at the zoo.

Ans: D

Refer to: Ref 1-1

Topic: Evaluating Claims

Page: 26

Reference: Ref 1-2

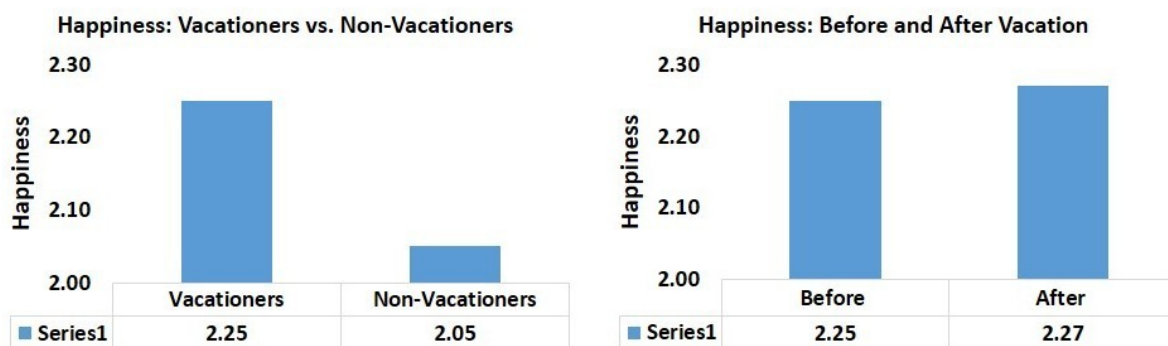
Scenario II

Scenario II is based on and presents fabricated data inspired by the following study:

Nawijn, J., Marchand, M.A., Veenhoven, R., & Vingerhoets, A.J. (2010). Vacationers happier, but most not happier after a holiday. *Applied Research in Quality of Life*, 5, 35–47. doi: 10.1007/s11482-009-9091-9

Vacation Time

Nawijn et al. conducted a study with two parts. In the first part of the study, 1,500 Dutch individuals were tested to determine if people who take vacations ($n = 500$) are happier than people who merely continue their everyday lives ($n = 1,000$). The second part of the study focused on 900 vacationers who answered questions about their happiness before and after a holiday trip, which consisted of traveling to and staying in places outside the participants' usual environments and specifically for leisure purposes for a duration of 5 to 21 days. The goal of the second part of the study was to determine if vacationers are happier before versus after their vacations. In both parts of the study, happiness was calculated by participants' responses to three questions: one positive item (enjoyment of daily tasks), minus two negative items (feeling unhappy; feeling gloomy and dejected). Possible answers were "never," "almost never," "sometimes," "very often," and "always." Results are shown in the figures below.



6. (Scenario II) Consider this sentence: "Happiness was calculated by participants' responses to three questions: one positive item (enjoyment of daily tasks), minus two negative items (feeling unhappy; feeling gloomy and dejected)." Inclusion of this sentence in the methodological section of Nawijn et al.'s research article is a good example of which of the following?

- A) assumption
- B) semantic encoding
- C) falsifiability
- D) operationism

Ans: D

Refer to: Ref 1-2

Topic: Characteristics of Science

Page: 18

7. (Scenario II) Which of the following terms is the best one to describe Nawijn et al.'s research?

- A) basic
- B) clinical
- C) applied
- D) ethical

Ans: C

Refer to: Ref 1-2

Topic: Basic and Applied Research

Page: 21

8. (Scenario II) What additional information, not included above, would be essential for assessing the validity of Nawijn et al.'s claims as they apply to everyday life?

- A) participants' ratings of how relaxing the vacations were
- B) where the participants' traveled on their vacations
- C) the costs of the vacations
- D) the types of hotels in which the participants' spent their vacations

Ans: A

Refer to: Ref 1-2

Topic: Skepticism, Science, and Everyday Life

Page: 25

9. (Scenario II) Based on the information given above, which of the following conclusions could reasonably be supported by the results of the study?

- A) Vacations are a great way to reduce stress all over the world.
- B) Vacations are a great way to increase happiness all over the world.
- C) In the Netherlands, people who take vacations may report greater happiness than those who do not take vacations.
- D) Despite relatively lengthy vacations, people in the Netherlands are generally stressed out by taking time off from work.

Ans: C

Refer to: Ref 1-2

Topic: Evaluating Claims

Page: 26

10. (Scenario II) Suppose that Nawijn et al. wished to describe their findings in the larger context of people all over the world. Which of the following statements would best describe their work?

- A) Employers should increase yearly vacation time to promote workers' happiness.
- B) Worker productivity could be increased by providing employees with paid vacation time.
- C) If the Dutch vacation model were replicated all over the world, it is possible that vacationers might report greater happiness compared to non-vacationers.
- D) People outside of the Netherlands tend to report higher levels of stress because they don't take lengthy vacations.

Ans: C

Refer to: Ref 1-2

Topic: Evaluating Claims

Page: 26

Reference: Ref 1-3

Scenario III

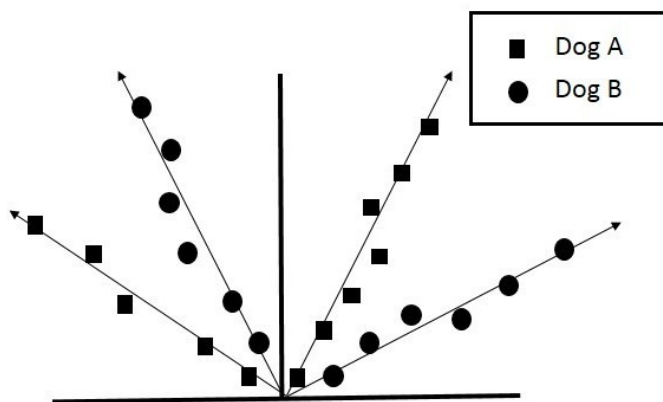
Scenario III is based on and presents fabricated data inspired by the following study:

Shaffer, D.M., Krauchunas, S.M., Eddy, M., & McBeath, M.K. (2004). How dogs navigate to catch frisbees. *Psychological Science*, 15, 437–441. doi: 10.1111/j.0956-7976.2004.00698.x

How Are Dogs like Baseball Players?

Previous studies have established the mechanisms by which human baseball players are able to visually track fly balls with complex trajectories and directional changes by maintaining a constant optical angle between themselves and their target. Shaffer et al. conducted a study to determine to what extent nonhuman species might use similar mechanisms to intercept another common type of target—a Frisbee. Participants in this study included two dogs, one Springer Spaniel (Dog A) and one Border Collie (Dog B), both of which were experienced in catching Frisbees. Micro-video cameras were attached to the heads of the dogs using ace bandages. Battery packs and transmitters were attached on the dogs' backs. This camera set-up enabled researchers to record the optical trajectories of the Frisbees as the dogs moved toward them. The Frisbees were launched with varying forces and trajectories, sometimes resulting in dramatic changes in speed and direction mid-flight. Sixty trials were recorded in which the dogs successfully caught the Frisbees. Results indicated that the viewer-based navigational strategies of dogs involved maintaining a constant optical angle between themselves and the Frisbees. Example trajectories are shown in Figure 1.

Figure 1. Examples of Dogs Tracking Frisbees. (Solid lines represent vertical and horizontal axes. Lines with arrows indicate the paths of the Frisbees. Squares and circles represent the paths of the dogs.)



11. (Scenario III) Philosopher and scientist Charles Peirce described four methods by which people come to hold beliefs about the world. Which of these methods was used by Shaffer et al.?
- A) tenacity
 - B) authority
 - C) reason

D) empiricism

Ans: D

Refer to: Ref 1-3

Topic: How Do We Know?

Page: 7

12. (Scenario III) Which of the following terms best describes Shaffer et al.'s research?

A) basic

B) athletic

C) applied

D) unethical

Ans: A

Refer to: Ref 1-3

Topic: Basic and Applied Research

Page: 20

13. (Scenario III) Which of the following conclusions could reasonably be supported by the results of the study?

A) Human baseball players and dogs share a common evolutionary origin.

B) Human baseball players in the previously published study and the two dogs in this study used similar strategies to apprehend target objects.

C) Regardless of species, all animals use similar mechanisms for apprehending targets.

D) Regardless of species, the accuracy of target apprehension increases with practice.

Ans: B

Refer to: Ref 1-3

Topic: Evaluating Claims

Page: 26

14. (Scenario III) What additional information might help you to interpret the results of this study?

A) the ages of the dogs

B) the brand of Frisbee

C) the visual acuity of the researcher

D) the age of the researcher

Ans: A
Refer to: Ref 1-3
Topic: Evaluating Claims
Page: 26

15. (Scenario III) Suppose the researchers wanted to improve the design of their study. Which of the following strategies would you suggest?
- A) studying only one dog breed
 - B) including a wider variety of dog breeds
 - C) including a wider variety of dog toys
 - D) using different sizes of Frisbees

Ans: A
Refer to: Ref 1-3
Topic: Evaluating Claims
Page: 26

Reference: Ref 1-4

Scenario IV

Scenario IV is based on and presents fabricated data inspired by the following study:

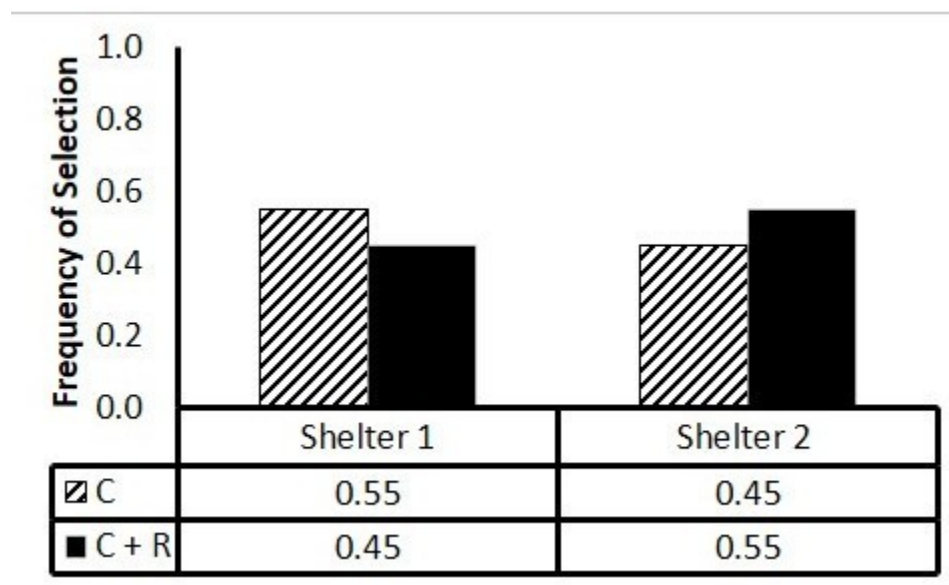
Halloy, J., Sempo, G., Caprari, G., Rivault, C., Asadpour, M., Tache, F., Said, I., Durier, V., Canonge, S., Ame, J.M., Detrain, C., Correll, N., Martinoli, A., Mondada, F., Siegwart, R., & Deneubourg, J.L. (2007). Social integration of robots into groups of cockroaches to control self-organized choices. *Science*, 318, 1155–1158. doi: 10.1126/science.1144259

Robotic Cockroach Study

Halloy et al. were interested in studying collective decision-making. To this end, the researchers created autonomous robots that could act as interactive decoys to infiltrate animal groups and then respond and adapt to the animals' behavior. The researchers tailored their robots for introduction to a group of cockroaches. The robots did not physically resemble cockroaches; they looked more like small boxes of kitchen matches on wheels. To facilitate their acceptance within the cockroach group, the robots were dressed with filter paper containing the proper concentration of the main molecules constituting male cockroach odor. In this way, the robots projected the appropriate chemical message for the cockroaches to recognize them as one of their group. The researchers introduced the robots and cockroaches to the experimental setup, which

included a circular arena that housed two rest areas. The rest areas were made of plastic disks covered by red film, suspended 30 mm above the floor of the arena. This provided dark spaces under which the cockroaches and their robotic counterparts could rest or hide. The cockroaches and robots were free to move about the arena, spending their time in the lighted areas of the arena or under the darkened shelters as they saw fit. Two different conditions were used: (1) groups of 16 cockroaches only, and (2) mixed groups of 12 cockroaches and 4 robots. In each case, researchers observed the movements of group members, paying careful attention to issues of shared collective choice of time spent between the two identical shelters. Average results for 30 trials are shown in Figure 2.

Figure 2. Shelter Occupancy of Cockroach (C) and Cockroach + Robot (C+R) Groups. Mean differences shown below were not statistically significant.



16. (Scenario IV) Which of the following terms best describes Halloy and colleagues' research?

- A) basic
- B) robotic
- C) applied
- D) unethical

Ans: A

Refer to: Ref 1-4

Topic: Basic and Applied Research

Page: 21

17. (Scenario IV) The information gleaned in this study could be used in a variety of contexts. Based on the information given above, which of the following applications seems like the most reasonable next step in this type of research?

- A) This procedure could be used to teach computer science students about the importance of cockroach-robot communication.
- B) This procedure could be used to develop new pest control strategies in which robots chase cockroaches out of people's homes.
- C) This procedure could be used to test hypotheses about the origin of cooperation among group members.
- D) This procedure could be used to train insects to co-exist more harmoniously with human beings.

Ans: C

Refer to: Ref 1-4

Topic: Basic and Applied Research

Page: 21

18. (Scenario IV) Given the background information above, which of the following statements best describes the data shown in Figure 2?

- A) Based on the distributions shown in Figure 2, it is clear that, with or without robots, cockroaches prefer to hide in the dark.
- B) Based on the distributions shown in Figure 2, mixed groups of cockroaches plus robots made collective sheltering decisions that were statistically similar to those of the cockroaches-only group.
- C) The introduction of robots into the existing cockroach group caused significant numbers of the cockroaches to move from shelter 1 to shelter 2.
- D) The introduction of robots into the existing cockroach group caused significant numbers of the cockroaches to move from shelter 2 to shelter 3.

Ans: B

Refer to: Ref 1-4

Topic: Evaluating Claims

Page: 26

19. (Scenario IV) Which of the following would make the best alternative title for this study?

- A) A new robotic infiltration system could make insecticide obsolete.
- B) Robots and cockroaches may interact to make collective decisions.
- C) Robotic infiltration may improve social relationships in group-living animals.
- D) Robots could train insects to avoid humans.

Ans: B

Refer to: Ref 1-4

Topic: Evaluating Claims

Page: 26

20. (Scenario IV) What additional information not given above would most likely aid your interpretation of the study results?

A) how the cockroaches behaved around unscented robots

B) how the robots behaved when the cockroaches were not around

C) how researcher-programmed, shelter-to-shelter moves by the robots might have impacted cockroach behavior

D) information on the specific type of cockroach that was used in this study (i.e., American, German, Broadbanded, etc.)

Ans: C

Refer to: Ref 1-4

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Reference: Ref 1-5

Scenario V

Scenario V is based on and presents fabricated data inspired by the following study:

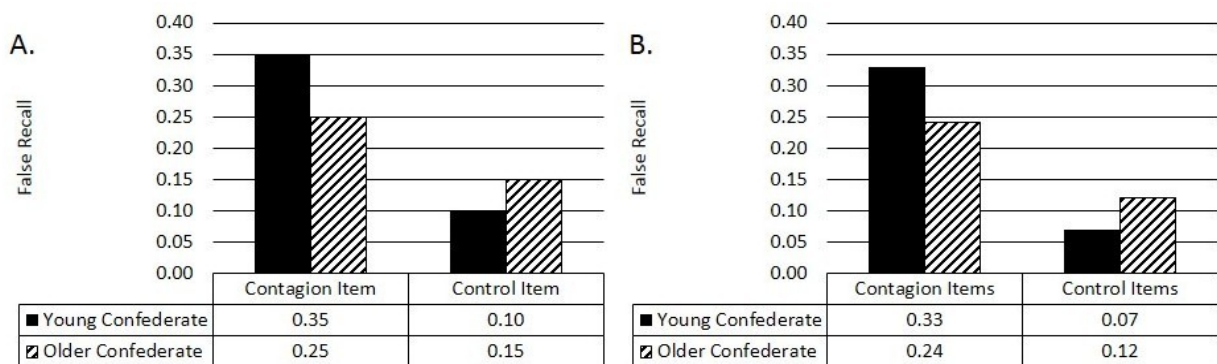
Davis, S.D., & Meade, M.L. (2013). Both young and older adults discount suggestions from older adults on a social memory test. *Psychonomic Bulletin and Review*, 20, 760–765. doi: 10.3758/s13423-013-0392-5

Listen to Your Elders

Davis and Meade conducted a study to determine the influence of age on social memory processes. Specifically, they wondered whether or not participants' memory reports on an individual recall test would be influenced by information presented by either a younger (mean age 21 years) adult confederate or older (mean age 75 years) adult confederate. In this study, the confederate pretended to be just another participant enrolled in the study. In fact, the confederates were not participants in the study, but rather, they were employed to make erroneous suggestions during a collaborative recall sessions in an attempt to influence the participants' individual recall test scores. True participants in the study were 40 undergraduate psychology students ranging in age from 18 to 35 years, as well as 40 older adults from the

community ranging in age from 65 to 85 years. Memory testing occurred in participant-confederate pairs and involved images of six household scenes containing an average of 24 items. Participant-confederate pairs were told to study the slides in preparation for a memory test. Then, they were given a break during which they were instructed to practice by taking turns recalling six items from each memory scene. It was during this practice session that confederates made their erroneous suggestions; that is, they pretended to recall items that were not actually in the scene (e.g., the non-present contagion items), along with some valid items that had been present in the scene. Next, participants were separated from their confederates and completed individual recall tests in separate rooms. The recall tests involved recalling as many items as possible for each scene with a two-minute time limit per scene. Subsequent statistical analyses focused on the contagion effect, expressed as the difference in the proportions of contagion and control items recalled. False recall data from the participants' individual recall tests are shown in Table 1. It is important to remember that, because they were merely pretending to be participants, the confederates did not complete recall tests.

Table 1. Mean Proportions of False Recall for Contagion and Control Items in A. Younger Participants (18-35 year-olds) and B. Older Participants (65-85 year-olds)



21. (Scenario V) Consider this sentence: “The contagion effect was expressed as the difference in the proportions of contagion and control items recalled.” Inclusion of this sentence in the methodological section of Davis and Meade’s research article is a good example of which of the following?

- A) assumption
- B) semantic encoding
- C) tenacity
- D) operationism

Ans: D

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22. (Scenario V) and B. Older Participants (65-85 year-olds) What additional information, not included above, would aid your assessment of Davis and Meade's results?

- A) the gender of the confederate(s)
- B) whether or not the same confederate was used for each participant
- C) the age range of the confederate(s)
- D) the political preferences of the confederate(s)

Ans: B

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23. (Scenario V) Which of the following statements about the data shown in Table 1 is TRUE?

- A) Younger adults performed more poorly on the memory test.
- B) Younger adults were less susceptible to the contagion effect.
- C) Young and older participants were equally susceptible to the contagion effect.
- D) Older adults were more susceptible to the contagion effect.

Ans: C

Refer to: Ref 1-5

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24. (Scenario V) Which of the following statements about the data shown in Table 1 is true?

- A) Confederate age had no influence on the contagion effect.
- B) Younger adults were more susceptible to contagion from older (versus younger) confederates.
- C) Younger adults were less susceptible to contagion from older (versus younger) confederates.
- D) Older adults were more susceptible to contagion from older (versus younger) confederates.

Ans: C

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25. (Scenario V) Which of the following overall conclusions would be best supported by the data shown in Table 1?

- A) In this study, young people did not listen to suggestions from their peers.
- B) In this study, elderly people did not listen to suggestions from young people.
- C) In this study, the generation gap appeared to widen with each passing year.
- D) In this study, participants were less likely to listen to suggestions from older people.

Ans: D

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Chapter: Chapter 1: Essay

Essay

1. The three-door problem plays an integral role in the discussion in chapter 1. Describe the elements of this problem and explain what lessons we can learn about research from understanding the problem and how people (both the general public and scientists) reacted to it.
2. There are at least five ways by which we acquire knowledge. Select three of these approaches. Define each of them, and give a specific example of the approach to acquiring knowledge.
3. The approach to acquiring knowledge called “authority” has both positive and negative aspects (or advantages and disadvantages). Describe the positive and negative aspects of acquiring knowledge via reliance on authority.
4. What is the *Molyneux problem* and what lessons can we learn from it about how people acquire knowledge of the world around us?
5. One pitfall in acquiring knowledge known to psychologists is “confirmation bias.” Define this term and apply it to a person’s efforts to gather information as a basis for buying a new car this year.
6. What are the four major goals of science? Define each goal and apply each one to the following situation: The state police have asked psychologists for their help in gathering data that will help reduce crime in a high-crime neighborhood.

7. There are at least three major reasons that research conducted by psychologists is a complex task. Describe these three major reasons and give a concrete example of each of them.

8. What is the major difference between a “hypothesis” and a “theory”? Apply the two terms to a psychologist’s efforts to understand how technology affects learning in a college environment.

9. One of the keys to acquiring knowledge is to state claims so that they meet the criterion of falsifiability. What does this term mean? Give a specific example of a falsifiable and non-falsifiable claim.

10. What are two reasons that operational definitions are so important to researchers? Give an operational definition (involving at least four elements for acquiring knowledge) for each of the following: depression, anxiety, and passion (in teaching).

11. How are applied and basic research related to one another? Give an example of each from the following: the structure of the sleep cycles across the night in the average adult.

12. Suppose you decide that you are interested in pursuing a career in psychology, emphasizing research. Give three ideas that would help you enhance your credentials for possible admission to graduate school in the future.

13. Describe at least three of the critical thinking questions you might pose when faced with a claim in the media, via friends or other sources.