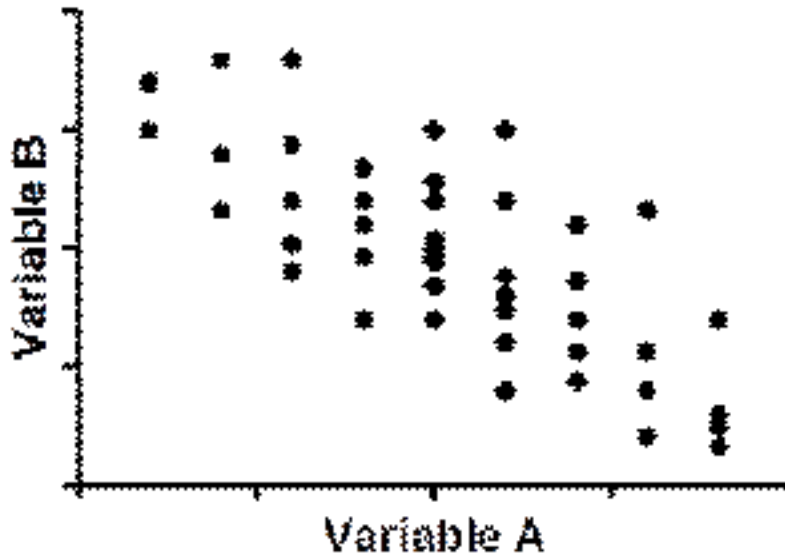


Use the following to answer questions 1-6:

Scenario I

Examine Figure 2.1 to answer the accompanying question(s).



1. (Scenario I) Figure 2.1 illustrates a _____ correlation between variables A and B.
 - A) moderate positive
 - B) moderate negative
 - C) perfect positive
 - D) perfect negative

2. (Scenario I) Which value is MOST likely to be the correlation coefficient (r) between variables A and B?
 - A) -0.7
 - B) -0.2
 - C) $+0.8$
 - D) -1.5

3. (Scenario I) Which pair is MOST likely to represent variables A and B?
 - A) height and weight
 - B) depression level and anxiety level
 - C) intelligence quotient and income
 - D) absences in course and score on final exam

4. (Scenario I) Each data point on the scatterplot represents:
- A) a single participant's score on variables A and B.
 - B) a single participant's score on variable B.
 - C) the score on variable B at the group mean of variable A.
 - D) the score on variable A at the group mean of variable B.
5. (Scenario I) Which statement is true given that variables A and B are significantly correlated?
- A) Variable A causes variable B OR variable B causes variable A.
 - B) Knowing the score on variable A allows for an estimate of the score on variable B.
 - C) There is no causal relationship between the two variables.
 - D) A third variable cannot be responsible for the observed association.
6. (Scenario I) In a simple correlational design, how would these data be collected?
- A) Measure each participant's score on variables A and B.
 - B) Randomly assign participants to experience either variable A or variable B.
 - C) Manipulate variable A and then observe its effects on variable B.
 - D) Manipulate both variables A and B and observe their effects on the target behaviour of interest.

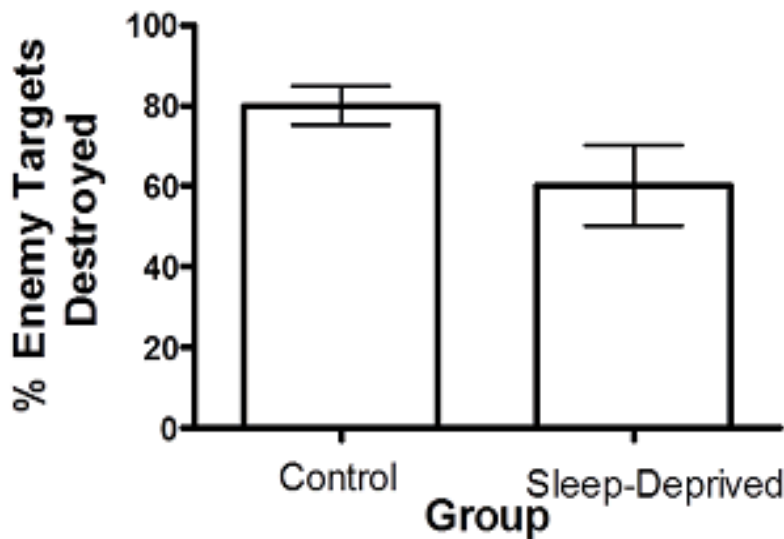
Use the following to answer questions 7-13:

Scenario II

A psychologist was interested in the effects of sleep deprivation on performance on a vigilance task. Forty university students served as participants and were placed in either the sleep-deprivation group or the control group by a coin flip. Both groups spent the night before the study in a sleep laboratory, but only the control group was allowed to sleep. By the next morning, the sleep-deprived group had been awake for the last 24 hours. At this time, both groups were provided with a nutritious breakfast and, shortly thereafter, testing began in sound-attenuating cubicles, each equipped with a computer. The vigilance task consisted of monitoring the computer screen. Participants were instructed that red dots represented allied spacecraft and green dots represented enemy spacecraft. Throughout the 2-hour-long task, red dots moved across the screen in irregular patterns. Occasionally and unpredictably, a green dot would quickly move across the screen in a haphazard pattern. When a green dot appeared, the task of the participant was to move a stylus over the green dot and press a button, “destroying” the enemy spacecraft. The psychologist measured the percentage of these enemy targets that were detected and destroyed.

The results of this fictitious experiment are shown in Figure 2.2.

Figure 2.2



7. (Scenario II) Vigilance was measured as the percentage of “enemy targets” destroyed. As a measure of vigilance, this illustrates:
- A) an operational definition.
 - B) reliability.
 - C) statistical significance.
 - D) a construct.
8. (Scenario II) Shown in Figure 6.2 are the mean and standard deviation of each group's performance. Based only on this figure, what can be concluded?
- A) The difference in the sample means is not statistically significant.
 - B) The difference in the sample means is reliable.
 - C) On average, the sleep-deprived group performed about as well as the control group.
 - D) Participants in the sleep-deprived group behaved more variably than those in the control group.
9. (Scenario II) The independent variable was:
- A) the length of the vigilance task.
 - B) the percentage of enemy targets destroyed.
 - C) the degree of vigilance.
 - D) sleep status.
10. (Scenario II) The dependent variable was:
- A) the length of the vigilance task.
 - B) the instructions given.
 - C) the percentage of enemy targets destroyed.
 - D) sleep status.
11. (Scenario II) Assuming the differences between groups were statistically significant, before concluding that sleep deprivation impairs vigilance, another dependent variable the researchers probably would want to analyze is:
- A) the effects of longer or shorter periods of sleep deprivation on vigilance.
 - B) the number of times participants incorrectly destroyed an allied spacecraft.
 - C) how well the task resembles real-world instances of sustained vigilance.
 - D) the effect of breakfast on performance on the vigilance task.
12. (Scenario II) Participants were placed into groups using:
- A) random sampling.
 - B) random assignment.
 - C) a double-blind technique.
 - D) the matched groups technique.

13. (Scenario II) The purpose of placing participants into one of the two groups by a coin flip was to:
- A) eliminate the demand characteristics operating in the study.
 - B) increase the external validity of the study.
 - C) help ensure that the two groups were equal on all possible third variables.
 - D) minimize experimenter bias.

Answer Key

1. B
2. A
3. D
4. A
5. B
6. A
7. A
8. D
9. D
10. C
11. B
12. B
13. C

1. Empiricists believe that accurate knowledge about the world requires observation of it.
A) True
B) False

2. Dogmatism is a desired characteristic of science.
A) True
B) False

3. A theory is a testable prediction made by a hypothesis.
A) True
B) False

4. Scientists tend to judge more complex theories as preferable to simpler theories.
A) True
B) False

5. An operational definition is a description of a property in measurable terms.
A) True
B) False

6. Defining and detecting are the two tasks that allow us to measure physical and psychological properties.
A) True
B) False

7. Measuring intelligence in terms of eye colour lacks reliability.
A) True
B) False

8. It is possible for a measure to be reliable but not valid.
A) True
B) False

9. Validity is the tendency of a measure to produce the same result whenever it is used to measure the same thing.
A) True
B) False

10. Reliability is the tendency of an operational definition and a property to have a clear conceptual relation.
 - A) True
 - B) False

11. People are creatures of habit and usually behave the same way, regardless of whether or not they are being observed in a psychological study.
 - A) True
 - B) False

12. When participants in an experiment behave in a way they think the experimenter wants them to behave, the problem of demand characteristics develops.
 - A) True
 - B) False

13. Naturalistic observation is a method for determining causal relationships between variables.
 - A) True
 - B) False

14. Unobtrusive naturalistic observation helps minimize the problem of demand characteristics.
 - A) True
 - B) False

15. Double-blind observations are a way of controlling for experimenter bias.
 - A) True
 - B) False

16. In a double-blind observation, the researcher but not the participant knows the purpose of the study.
 - A) True
 - B) False

17. A normal distribution is symmetrical around its peak.
 - A) True
 - B) False

18. In a frequency distribution, the average score for each group is plotted on the vertical axis.
 - A) True
 - B) False

19. One feature of a normal distribution is that the mean is usually greater than the median.
 - A) True
 - B) False

20. One feature of a normal distribution is that it is usually positively skewed.
 - A) True
 - B) False

21. Net worth is a variable that tends to be positively skewed in the population.
 - A) True
 - B) False

22. In a skewed distribution, the peak of the frequency distribution will correspond to the modal score.
 - A) True
 - B) False

23. One feature of a negatively skewed distribution is that the mean is less than the median.
 - A) True
 - B) False

24. The standard deviation is a measure of central tendency.
 - A) True
 - B) False

25. Correlation is a method for determining causal relationships between variables.
 - A) True
 - B) False

26. A positive correlation between two variables is stronger than a negative correlation between two variables.
A) True
B) False
27. A correlation coefficient (r) can range from 0 to 100.
A) True
B) False
28. A correlation coefficient of 1 indicates that two variables covary perfectly.
A) True
B) False
29. A correlation coefficient of 1 indicates that two variables are causally related.
A) True
B) False
30. A negative correlation between two variables means that, as the score on one variable decreases, the score on the other variable will also decrease.
A) True
B) False
31. A positive correlation between smoking and mental illness is evidenced by the fact that people who smoke are more likely to have a mental illness.
A) True
B) False
32. Cause and effect cannot be demonstrated by observing natural correlations.
A) True
B) False
33. When a correlation is observed between two variables, it is possible that one variable is causing the other.
A) True
B) False

34. The matched samples technique attempts to eliminate the third-variable problem by holding it constant for each participant.
A) True
B) False
35. Matched samples effectively rule out specific third-variable correlations, but matched pairs do not.
A) True
B) False
36. The matched samples technique eliminates the third-variable problem associated with correlational research.
A) True
B) False
37. The third-variable problem means that the possibility of a third, causal variable is always present in correlational measurements.
A) True
B) False
38. To conduct a true experiment, a variable must be manipulated by the experimenter.
A) True
B) False
39. Identifying a group of children who watch violent television and a group of children who do not is an example of manipulating exposure to violent television.
A) True
B) False
40. The variable that is manipulated in an experiment is the independent variable.
A) True
B) False
41. When an independent variable is manipulated, at least two groups are created.
A) True
B) False

42. The dependent variable is manipulated by the experimenter.
A) True
B) False
43. An experimental group should be identical to a control group in every way except one: the manipulation of the independent variable.
A) True
B) False
44. A common strategy in experimentation is to allow participants to choose if they would like to be studied in the experimental group or the control group.
A) True
B) False
45. Self-selection by participants to experimental conditions is an effective way of eliminating the third-variable problem.
A) True
B) False
46. It is common to assign experimental participants to groups by random assignment.
A) True
B) False
47. Random assignment of participants to groups generally is an effective way of eliminating the third-variable problem.
A) True
B) False
48. Third variables are not adequately controlled when random assignment fails to create equivalent groups.
A) True
B) False
49. When the odds are high that random assignment failed to create equivalent groups, the results are said to be statistically significant.
A) True
B) False

50. An internally valid experiment means that accurate conclusions can be drawn about the causal relationship between an independent variable and a dependent variable.
A) True
B) False
51. External validity means an experiment defines operational variables in a normal, typical, or realistic way.
A) True
B) False
52. Experimental psychologists seeking to determine cause-and-effect relations between variables tend to view external validity as more important than internal validity.
A) True
B) False
53. A sample taken from a population is signified by a lowercase n .
A) True
B) False
54. In the case method, only one individual is studied.
A) True
B) False
55. Random assignment to groups is common when using the case method.
A) True
B) False
56. A random sample means that every member of the population has an equal chance of being included for study.
A) True
B) False
57. A random sample means that every participant has an equal chance of being assigned to the treatment group or the control group.
A) True
B) False

58. Most psychological research does not utilize random sampling.
A) True
B) False
59. Most participants in psychological research are volunteers, as opposed to participants who are selected randomly.
A) True
B) False
60. The scientific method was first formally described by Francis Bacon.
A) True
B) False
61. If people in favour of the death penalty are given mixed evidence about its effectiveness at deterring crime, they generally become less supportive of it.
A) True
B) False
62. People typically search for evidence that confirms their existing beliefs.
A) True
B) False
63. Critical thinking involves the relentless search for evidence that confirms existing beliefs.
A) True
B) False
64. Participants must give their informed consent before participating in psychological research.
A) True
B) False
65. Once participants give their informed consent, they are contractually bound to finish their participation; they cannot quit any time.
A) True
B) False

66. Ethical guidelines allow coercion to make people participate in a psychological study in certain circumstances.
A) True
B) False
67. Deception is not allowable in psychological research.
A) True
B) False
68. The function of a research ethics board is to help ensure that research is in compliance with the law and ethical guidelines.
A) True
B) False
69. The function of a research ethics board is to help researchers design experiments high in internal and external validity.
A) True
B) False
70. Current ethical guidelines prohibit conducting psychological research involving animals.
A) True
B) False
71. Current ethical guidelines prohibit conducting psychological research on animals that involves pain.
A) True
B) False
72. Research ethics boards help ensure that data are analyzed and disseminated ethically.
A) True
B) False
73. When it comes to reporting data truthfully, scientists use the honour system.
A) True
B) False

Answer Key

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

- 45. B
- 46. A
- 47. A
- 48. A
- 49. B
- 50. A
- 51. A
- 52. B
- 53. A
- 54. A
- 55. B
- 56. A
- 57. B
- 58. A
- 59. A
- 60. A
- 61. B
- 62. A
- 63. B
- 64. A
- 65. B
- 66. B
- 67. B
- 68. A
- 69. B
- 70. B
- 71. B
- 72. B
- 73. A

1. _____ use specific rules and techniques to observe and understand natural phenomena.
 - A) Idealists
 - B) Empiricists
 - C) Dogmatists
 - D) Humanists

2. Which statement describes a difference between a hypothesis and a theory?
 - A) A hypothesis establishes a general principle through experiments, whereas a theory is based on a specific observation that is limited to a single instance.
 - B) A hypothesis explains a set of theories, whereas a theory explains a set of laws.
 - C) A hypothesis is a falsifiable prediction made by a theory, whereas a theory is a hypothetical explanation of a natural phenomenon.
 - D) A hypothesis needs to be proven to be true, whereas a theory is inherently true.

3. James, a psychologist, observes that some people who are exposed to a traumatic childhood experience anxiety disorders later in their lives, whereas some people do not. Which quality of humans, illustrated in this scenario, makes them difficult to study?
 - A) tractability
 - B) variability
 - C) empathy
 - D) reliability

4. Which factor is an important characteristic of a good operational definition?
 - A) validity
 - B) negative correlation
 - C) power
 - D) positive covariance

5. _____ is defined as an instrument's ability to detect small magnitudes of the property.
 - A) Self-selection
 - B) Reliability
 - C) Power
 - D) Significance

6. When naturalistic observation is not possible, which step can psychologists take to avoid demand characteristics?
 - A) using cover stories to hide the true purpose of the study
 - B) using the matched pairs technique to introduce an additional variable to the study
 - C) using direct replication to carry out the same study with varying samples
 - D) using random selection to ensure a representative sample

7. The more time children spend playing video games at home, the lower their grades are at school. This represents a:
- A) causal relationship.
 - B) negative correlation.
 - C) double-blind observation.
 - D) normal distribution
8. When are two variables said to covary?
- A) when the two variables have different values under different circumstances
 - B) when the two variables have different variations under different circumstances
 - C) when variations in the value of one variable are synchronized with variations in the value of the other
 - D) when the pattern of variation of the two variables is highly dissimilar
9. Katrina is interested in studying the relationship between attention deficit disorder and behavioural problems in schoolchildren, but she believes that the students' socioeconomic statuses may affect her results. She studies two groups of children through an intervention treatment and makes sure that all children in both groups are from homes with the same level of income. What technique does Katrina use in this study?
- A) matched samples
 - B) matched pairs
 - C) random sampling
 - D) third-variable correlation
10. In order to conduct a valid experiment, you must first manipulate a(n) _____ variable and then measure _____ variable.
- A) independent; a dependent
 - B) dependent; an independent
 - C) independent; the same
 - D) dependent; the same
11. Terrence is studying how music affects attitudes. On a hot June day, he exposes one group of university students to classical music and another group to jazz, while he measures their attitudes towards war. In this scenario, the dependent variable is the:
- A) type of music being played.
 - B) students' attitudes towards war.
 - C) students' psychological responses to the music.
 - D) volume of the music being played.

12. If an experiment has a high degree of _____, a causal relationship can be demonstrated between all or certain variables in the experiment.
- A) reliability
 - B) internal validity
 - C) external validity
 - D) negative correlation
13. A boxer suddenly begins experiencing severe mood swings and exhibiting bizarre behaviour. A neuropsychologist determines that the boxer has suffered traumatic brain injury, which has probably been caused by numerous concussions. The neuropsychologist then studies the functioning of the boxer's brain in detail using fMRI brain-imaging techniques to learn more about his concussions. This represents a(n):
- A) experiment.
 - B) naturalistic observation.
 - C) double-blind observation
 - D) case method.
14. A university recently banned the use of plastic water bottles on campus in an effort to be ecofriendly. A psychologist at the university is interested in the attitudes of the students towards this ban. She obtains a list of all the students enrolled in the university and arbitrarily selects 100 students for a survey designed to assess their opinions on the ban. In this study, which method has the psychologist used to select students for the survey?
- A) random sampling
 - B) random assignment
 - C) matched samples technique
 - D) naturalistic observation
15. According to the Canadian Psychological Association, which statement about the use of coercion in psychological research is TRUE?
- A) Coercion can be used in the absence of other ethical ways to conduct the research.
 - B) Coercion should be used when the benefits of the research outweigh the risks to the participants.
 - C) Monetary compensation can be used to persuade a person to participate.
 - D) Researchers should respect a person's right to make decisions without coercion.

Answer Key

1. B
2. C
3. B
4. A
5. C
6. A
7. B
8. C
9. A
10. A
11. B
12. B
13. D
14. A
15. D

1. _____ is forming beliefs based on observations about the world, while _____ is forming beliefs based on assumptions.
 - A) Dogmatism; empiricism
 - B) Method; dogmatism
 - C) Empiricism; method
 - D) Empiricism; dogmatism

2. A schoolteacher seeks help from the school psychologist because a child in her class is particularly unruly. The psychologist visits the class one day to observe the child. Knowing that she is being watched, the child is on her best behaviour. Which quality illustrated in this scenario makes it difficult for psychologists to study human behaviour?
 - A) The measure is reliable but lacks validity.
 - B) The measure is valid but lacks reliability.
 - C) The measure is reliable and valid.
 - D) The measure is neither reliable nor valid.

3. A measuring instrument is said to be reliable when it is able to:
 - A) produce a consistent result if the same thing is measured twice.
 - B) produce results that are close to the expected results.
 - C) predict actual behaviour.
 - D) covary with an independent variable.

4. Which technique is good to use to avoid the problem of demand characteristics in an experiment?
 - A) revealing the expected results to the participants before starting the experiment
 - B) gathering scientific information by observing people without their knowledge
 - C) clearly explaining the true purpose of the experiment to the participants
 - D) asking the participants to respond to questionnaires in front of a selected sample of people

5. Which statement is NOT true of a normal distribution?
 - A) It has a bell-shaped curve.
 - B) It is symmetrical around the peak of the distribution.
 - C) The mean of the distribution is greater than the mode of the distribution.
 - D) The frequency of measurements is highest in the middle.

6. Which value of the correlation coefficient represents the WEAKEST degree of relationship between two variables?
- A) 0.2
 - B) 0.1
 - C) 0.4
 - D) 0.99
7. Raul performs a research study at Norshore High School and observes that there is a negative correlation between popularity and academic success. Which statement can be inferred from his observation?
- A) Students who do well academically are more likely to be popular.
 - B) Students who don't do well academically are less likely to be popular.
 - C) Students who do well academically are less likely to be popular.
 - D) Students who don't do well academically are more likely to be in the same social group.
8. Which statement CANNOT be concluded from the systematic observation that children who watch televised aggression act violently?
- A) Exposure to televised aggression should be manipulated before measuring the aggression levels of children.
 - B) Exposure to televised aggression is likely to lead to aggressive behaviour in children.
 - C) Exposure to televised aggression is a dependent variable.
 - D) Exposure to televised aggression and aggression levels of children are positively correlated.
9. One way to counteract a possible third-variable problem is to use:
- A) the matched samples technique.
 - B) the case method.
 - C) a double-blind observation.
 - D) the random assignment procedure.
10. Bydale Health has developed a new cancer-fighting drug. The company tests the effectiveness of the drug by conducting research using people of all age groups. The participants are segregated into groups, and each group is given a different dosage of the same drug. In this scenario, the dependent variable is the:
- A) progression of the disease.
 - B) amount of money spent in developing the drug.
 - C) number of participants in each group.
 - D) dosage of the drug administered to the first group.

11. Dr. Spelke thinks that language is linked to spatial ability. To prove it, she enlists two groups of people to navigate around the room, one of them doing so while singing a song and the other while clapping hands. In this scenario, which statement is TRUE of Dr. Spelke's study?
- A) The group that claps hands serves as a control group.
 - B) The group that claps hands serves as an experimental group.
 - C) The group that sings a song is not relevant to Dr. Spelke's study.
 - D) The group that sings a song is positively correlated to the group that claps hands.
12. In an experiment, participants are placed in either an experimental group or a control group based on the flip of a coin. This method illustrates:
- A) statistical significance.
 - B) random sampling.
 - C) random assignment.
 - D) double-blind observation.
13. Susan, a researcher, conducts a study at a fruit and vegetable stand. She observes the stand's customers for a period of 3 days without their knowledge and notices that people are more likely to buy a bag of fruit and vegetables that they have sampled at random than those that have been sampled nonrandomly by the seller. Which statement is TRUE of Susan's observation?
- A) The study is invalid, as the buyers were not informed of the expected outcome of the study.
 - B) Susan has failed to avoid demand characteristics in her study.
 - C) The buyers have considered random samples to be representative of the whole.
 - D) Susan has used a double-blind observation in her study.
14. Which statement about ethical research in psychology is TRUE?
- A) A researcher can use monetary coercion to persuade people who are unwilling to participate in a study.
 - B) A researcher should obtain informed consent from research participants or their legal guardians.
 - C) A researcher can use deception in a research study if it cannot be proved.
 - D) A researcher should manipulate the outcome of the study by omitting results that don't confirm a hypothesis.

Answer Key

1. D
2. D
3. A
4. B
5. C
6. B
7. C
8. C
9. A
10. A
11. A
12. C
13. C
14. B

1. Contrast how a dogmatist and an empiricist might react to the statement that drug addiction is a “disease of the brain.”
2. A psychologist theorizes that depression is caused by low levels of the neurotransmitter serotonin in the brain. Generate a hypothesis based on this theory.
3. Although psychologists and chemists both use the scientific method, discuss three reasons why the subject matter of psychology is much more difficult to study than the subject matter of chemistry.
4. Develop an operational definition that could be used to measure the terms *happiness* and *shyness*.
5. Two primary considerations in psychological measurement are validity and reliability. Without both, the results of a psychological study are meaningless. Explain the concepts of validity and reliability.
6. Generate your own example of a measure that is reliable but not valid and a measure that is neither reliable nor valid.
7. What are demand characteristics? Give at least three examples of how to control demand characteristics.
8. What is the third-variable problem, and how does it relate to correlational research in psychology? Give an example.
9. Describe the major reason that causation cannot be derived from a correlation and at least two ways to try to control the problem while still using a correlational design.
10. A true experiment is defined as having certain characteristics. Deconstruct an experiment into its two essential characteristics, and note how each helps to achieve the overall goal of internal validity.

11. Self-help guru Louise Hay claims that her self-help DVDs can cure cancer. Describe how you would design an experiment to test this claim. To get you started, suppose that the participants in the experiment are individuals recently diagnosed with cancer who have provided informed consent to participate in a study investigating the power of positive thinking. From here, describe how you would use random assignment and manipulation to test Hay's claim. Be sure to identify the independent and dependent variables.
12. In the context of experimentation, describe how internal and external validity are established.
13. Explain the difference between a population and a sample. Then discuss the relationship between random sampling and generalizing findings from the sample to the population.
14. According to Sir Francis Bacon, what two human tendencies interfere with our ability to think critically? Provide examples of each.
15. List at least three rules of ethics that psychologists must follow to maintain the safety, well-being, and dignity of their participants.

Answer Key

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.
- 15.

1. _____ involves making direct observations of the world, whereas _____ involves relying on assumptions and beliefs about the world.
 - A) Methodology; empiricism
 - B) Dogmatism; empiricism
 - C) Empiricism; dogmatism
 - D) Empiricism; methodology

2. _____ involves holding onto previous assumptions and beliefs about the world, whereas _____ involves basing beliefs on objective observations of the world.
 - A) Methodology; empiricism
 - B) Dogmatism; empiricism
 - C) Empiricism; dogmatism
 - D) Empiricism; methodology

3. The belief that accurate knowledge of the world requires observations of it is called:
 - A) empiricism.
 - B) methodology.
 - C) dogmatism.
 - D) pragmatism.

4. The belief that one can obtain accurate knowledge about the causes of human behaviour by observing people behaving in different situations exemplifies:
 - A) pragmatism.
 - B) dogmatism.
 - C) empiricism.
 - D) parsimony.

5. Margot wonders if people behave more aggressively when there is a full moon. To attempt to find out, she categorizes arrest records and emergency room admissions by the cycle of the moon. Margot is taking a(n) _____ approach to the question.
 - A) empirical
 - B) dogmatic
 - C) hypothetical
 - D) deductive

6. Juliana wonders if males or female university students spend more time on social media. After obtaining university approval, Juliana develops and administers a survey to a random sample of students in an attempt to answer this question. Juliana is taking a(n) _____ approach to the question.
- A) empirical
 - B) dogmatic
 - C) hypothetical
 - D) deductive
7. Throughout most of human history, people have tended to trust _____ to answer important questions.
- A) logic
 - B) science
 - C) authority
 - D) philosophers
8. Holding to Ptolemy's theories that the earth is the centre of the universe, despite contradictory observations made by Galileo upon the invention of the telescope, illustrates:
- A) hypothesis testing.
 - B) dogmatism.
 - C) empiricism.
 - D) experimentation.
9. Eyes and ears are to _____ as knowledge from elders is to _____.
- A) hypothesis; theory
 - B) theory; hypothesis
 - C) dogmatism; empiricism
 - D) empiricism; dogmatism
10. Aaron trusts what he himself observes, not claims by others. Aaron takes a(n) _____ approach to knowledge acquisition.
- A) correlational
 - B) dogmatic
 - C) empirical
 - D) parsimonious

11. The _____ is BEST defined as a procedure for finding facts by using empirical evidence.
- A) introspective technique
 - B) scientific method
 - C) double-blind control
 - D) dogmatic approach
12. Which statement is TRUE about the scientific method?
- A) The scientific method takes a dogmatic approach to knowledge acquisition.
 - B) The scientific method limits empirical observations to those consistent with a theory.
 - C) The scientific method emphasizes the importance of non-empirical sources of information when constructing new theories.
 - D) The scientific method uses empirical evidence to uncover new facts about the world.
13. _____ is defined as a hypothetical explanation of a natural phenomenon.
- A) Theory
 - B) Science
 - C) Hypothesis
 - D) Logic
14. Which statement is an attribute of a good theory?
- A) It can be proven correct.
 - B) It cannot be tested.
 - C) It is no more complicated than necessary.
 - D) It makes unfalsifiable predictions.
15. Which statement is an attribute of a good theory?
- A) It can be proven correct.
 - B) It does not need to be tested.
 - C) It does not lead to hypotheses.
 - D) It makes falsifiable predictions.
16. A testable prediction derived from a theory is termed a(n):
- A) experiment.
 - B) operational definition.
 - C) hypothesis.
 - D) valid measure.

17. _____ are derived from _____.
- A) Hypotheses; theories
 - B) Theories; hypotheses
 - C) Empirical observations; theories
 - D) Empirical observations; hypotheses
18. Dan believes that happiness has little to do with material possessions. He makes a specific prediction that people who win the lottery will not be any happier than they were before winning. This testable prediction is termed a(n):
- A) experiment.
 - B) conclusion.
 - C) theory.
 - D) hypothesis.
19. Henri suspects that the amygdala is involved in emotional memories. He asks participants to recall emotionally charged events while in a brain-scanning machine and makes the specific prediction that amygdala activation will be observed during the task. This testable prediction is termed a(n):
- A) experiment.
 - B) empirical method.
 - C) hypothesis.
 - D) theory.
20. Given two theories that are equally consistent with observations about the world, the _____ theory is preferred, illustrating the principle of _____.
- A) simpler; parsimony
 - B) more complex; parsimony
 - C) simpler; falsifiability
 - D) more complex; falsifiability
21. Which statement is TRUE regarding the principle of parsimony?
- A) Parsimonious theories are less likely to be falsified.
 - B) The world is elegantly simple and demands simple theories.
 - C) Simple theories are more likely to be correct than more complicated ones.
 - D) Theories should only be as complex as they need to be.

22. The theory that God created the universe is:
- A) unfalsifiable.
 - B) falsifiable.
 - C) necessarily correct.
 - D) necessarily incorrect.
23. The theory that ancient aliens seeded the planet with life millions of years ago and then disappeared is:
- A) unfalsifiable.
 - B) completely falsifiable.
 - C) necessarily correct.
 - D) necessarily incorrect.
24. Which question is an unfalsifiable research question?
- A) Are people who pray daily happier than those who do not?
 - B) Does God answer prayers?
 - C) Do people who pray while in the hospital recover faster than those who do not?
 - D) Is prayer associated with charitable giving?
25. Which statement is an unfalsifiable psychological claim?
- A) Teenagers are more sexually active than their parents tend to believe they are.
 - B) People are less likely to help a stranger in need as the number of other bystanders increases.
 - C) The hippocampus is a brain structure critically involved in the formation of long-term memories.
 - D) Part of the human unconscious is the id, an unobservable entity that governs basic human drives.
26. Anna's research yielded results that are consistent with a hypothesis derived from a behavioural theory of substance abuse. Which conclusion is CORRECT regarding the theory?
- A) The theory is supported.
 - B) The theory is proven.
 - C) The theory is unfalsified.
 - D) The theory is statistically significant.

27. Aleskey's research yielded results that are consistent with a hypothesis derived from a cognitive account of language development. Which conclusion is CORRECT regarding the theory?
- A) The theory is strengthened.
 - B) The theory is proven.
 - C) The theory is unfalsified.
 - D) The theory is statistically significant.
28. Sofia's research yielded results that are consistent with a hypothesis derived from a cognitive account of classical conditioning. Which conclusion is CORRECT regarding the theory?
- A) The theory is proven.
 - B) The theory may be disproven by subsequent research.
 - C) The theory is unfalsified.
 - D) The theory is statistically significant.
29. Octavia's research yielded results that are consistent with a hypothesis derived from a developmental account of decision making. Which conclusion is CORRECT regarding the theory?
- A) The theory is proven.
 - B) The theory is necessarily unfalsifiable.
 - C) The theory may be refuted by other investigators.
 - D) The theory is statistically significant.
30. A set of rules and techniques for observation is termed an empirical:
- A) theory.
 - B) study.
 - C) definition.
 - D) method.
31. An empirical method refers to:
- A) the logical steps by which a hypothesis is derived from a theory.
 - B) a set of rules and techniques for observation.
 - C) the process of theory falsification.
 - D) the collection of statistical techniques that can be applied to a data set.

32. Carolina wants to determine if preschoolers are more or less likely to initiate play with same- or opposite-gender peers. She is trying to devise a plan in which the children will not know that they are being observed. Carolina seeks a(n):
- A) empirical method.
 - B) parsimonious theory.
 - C) experimental hypothesis.
 - D) research question.
33. Angela wants to determine if male or female university students are more likely to pay with cash versus a credit card while at a restaurant. She is undecided if she should observe their actions at a restaurant, or instead pose questions to participants about this topic using a survey. Angela is trying to decide on the best _____ to address her research question.
- A) statistical technique
 - B) parsimonious theory
 - C) experimental hypothesis
 - D) empirical method
34. Sue becomes tired when it gets really hot outside and Frank becomes angry. Their different reactions to the heat illustrate the challenge of _____ to the study of human behaviour.
- A) confounds
 - B) variability
 - C) complexity
 - D) reactivity
35. Drugs of abuse activate the reward pathway in the brain. This pathway consists of multiple brain structures, many neurotransmitters, and millions of interconnected neurons. Determining the brain changes that underlie the transition from casual drug use to addiction is a difficult process due to the _____ of the system.
- A) reliability
 - B) parsimony
 - C) complexity
 - D) reactivity
36. According to the textbook, what three things make people especially difficult to study?
- A) shyness, moodiness, and unpredictability
 - B) complexity, reactivity, and unpredictability
 - C) variability, reactivity, and complexity
 - D) reactivity, variability, and stubbornness

37. Which reason is NOT listed by the textbook as one that makes people especially difficult to study?
- A) complexity
 - B) emotionality
 - C) variability
 - D) reactivity
38. People are difficult to study because they often behave differently when they know that they are being observed, a phenomenon known as:
- A) unpredictability.
 - B) variability.
 - C) complexity.
 - D) reactivity.
39. Cruella would not describe herself as the type of person who cares about animal rights, but she says that she does when filling out a survey for a psychologist. This illustrates that people can be highly _____ when studied.
- A) dogmatic
 - B) variable
 - C) complex
 - D) reactive
40. When participating in psychological research, participants sometimes report not their true beliefs, but rather what they feel to be the socially acceptable answer. This illustrates that people can be highly _____ when studied.
- A) empirical
 - B) variable
 - C) complex
 - D) reactive
41. On a wide range of cognitive abilities, males are more _____ than are females.
- A) empirical
 - B) variable
 - C) complex
 - D) reactive

42. Because males are more _____ than are females on a wide range of cognitive abilities, they tend to be _____ among great scientists.
- A) variable; overrepresented
 - B) variable; underrepresented
 - C) complex; overrepresented
 - D) reactive; underrepresented
43. Using one's senses to learn about the properties of an event refers to:
- A) reactivity.
 - B) operational definitions.
 - C) observation.
 - D) experimentation.
44. Which statement is TRUE regarding casual observations?
- A) They form the heart of the empirical method.
 - B) They are inadequate for doing science.
 - C) They generally are consistent from one observer to the next.
 - D) They represent a dogmatic approach to science.
45. An operational definition is:
- A) a description of a property in measurable terms.
 - B) the way sciences tend to operate when forming hypotheses.
 - C) the consensus scientists reach when defining their terms.
 - D) a set of rules and techniques for making observations.
46. A description of a property in concrete measurable terms is a(n):
- A) theory.
 - B) naturalistic observation.
 - C) operational definition.
 - D) hypothesis.
47. Describing length as "change in the location of light over time" is an example of a(n):
- A) measurement device.
 - B) casual observation.
 - C) unit of measurement.
 - D) operational definition.

48. Describing time based on the duration it takes the earth to revolve around the sun is an example of a(n):
- A) measurement instrument.
 - B) demand characteristic.
 - C) operational definition.
 - D) reactive observation.
49. Mike wants to know how many licks it takes to get to the centre of his lollipop. He tells his friends that "one full gyration of the tongue around the outer surface of the lollipop" is what constitutes a "lick." In an informal way, Mike is offering a(n):
- A) measurement instrument to answer his question.
 - B) way to eliminate the reactivity sometimes associated with observation.
 - C) operational definition for the behaviour he wants to measure.
 - D) naturalistic observation.
50. Mike wants to know how many licks it takes to get to the centre of his lollipop. He tells his friends that "one full gyration of the tongue around the outer surface of the lollipop" is what constitutes a "lick." In an informal way, Mike is offering a(n) _____ but lacks a reliable _____ to answer the question.
- A) measurement instrument; operational definition
 - B) theory; measurement instrument
 - C) theory; operational definition
 - D) operational definition; measurement instrument
51. A device that can detect the events to which an operational definition refers is a(n):
- A) tool.
 - B) gadget.
 - C) demand characteristic.
 - D) instrument.
52. To correctly measure a specific property of an object, the property must be _____ and _____.
- A) defined; detected
 - B) identified; researched
 - C) real; measurable
 - D) visible; specific

53. Mike wants to know how many licks it takes to get to the centre of his lollipop. He tells his friends that "one full gyration of the tongue around the outer surface of the lollipop" is what constitutes a "lick." Unfortunately, he has not developed a reliable, mechanized way to measure licks. Mike's problem involves:
- A) definition.
 - B) a third variable.
 - C) falsifiability.
 - D) detection.
54. The extent to which a concrete event defines a property is referred to as:
- A) reliability.
 - B) validity.
 - C) power.
 - D) measurement.
55. The extent to which the frequency of smiling really defines the property called happiness is an issue of measurement:
- A) reliability.
 - B) validity.
 - C) power.
 - D) instrumentation.
56. The tendency for a measure to produce the same result whenever it is used to measure the same thing is known as:
- A) consistency.
 - B) power.
 - C) validity.
 - D) reliability.
57. A reliable measure is one that:
- A) tends to produce the same result whenever it is used to measure the same thing.
 - B) tends to differentiate between accurate and inaccurate data.
 - C) compensates for a weak operational definition of a property under study.
 - D) is necessarily an accurate measure of an underlying property.

58. The tendency for a measure to produce different results when the quantity measured changes only slightly is known as:
- A) differentiation.
 - B) power.
 - C) validity.
 - D) reactivity.
59. Ideally, a measurement should have validity, reliability, and _____ in order to be useful to scientists.
- A) definition
 - B) accuracy
 - C) power
 - D) consistency
60. A bathroom scale is broken and always shows a weight of 150 pounds, no matter who steps on it. As a measure of weight, the broken scale lacks:
- A) reliability.
 - B) validity.
 - C) consistency.
 - D) parsimony.
61. A bathroom scale cannot detect the difference in weights between Jorge and Carlos, because the two men only differ by 1 kilogram. As a measure of weight, the scale is limited in terms of its:
- A) reliability.
 - B) validity.
 - C) consistency.
 - D) power.
62. Which measure lacks both reliability and validity?
- A) scholastic aptitude as measured by age
 - B) happiness as measured by heart beats per minute
 - C) intelligence as measured in terms of birth order
 - D) class performance as measured by randomly picking a grade out of a hat

63. Roger wants to study whether the level of personal income predicts happiness. He operationally defines *income* as "the gross amount of money a person earns in a calendar year." He operationally defines *happiness* as "the ability of that person to stand on one leg for longer than 3 minutes." What is glaringly wrong with Roger's study?
- A) It lacks validity; income can be measured, but happiness cannot.
 - B) It lacks reliability; the operational definitions of the properties under study produce inconsistent measurements.
 - C) It lacks validity; the operational definition of happiness is unrelated to the underlying property of happiness.
 - D) It lacks reliability; it is difficult to precisely measure both income and happiness.
64. Vanessa and Jenny take a reaction-time test. Vanessa's reaction time is 0.23 seconds, and Jenny's reaction time is 0.25 seconds. Suppose that the stopwatch the psychologist used only measured to a tenth of a second. The psychologist concludes that Vanessa and Jenny have equal reaction times of 0.2 seconds. As a measure of reaction time, the stopwatch lacks:
- A) reliability.
 - B) validity.
 - C) power.
 - D) reactivity.
65. When aspects of a setting cause participants to behave the way they think an observer wants them to behave, the problem of _____ is present.
- A) demand characteristics
 - B) complexity
 - C) validity
 - D) variability
66. Which statement is an example of a demand characteristic in everyday life?
- A) Laura enjoys reading tabloids in her free time.
 - B) Mark acts more polite than normal while on a date.
 - C) Seth buys a certain brand of candy because it appears that there are only a few left.
 - D) Lacey speeds so that she won't be late to her next class.

67. Which statement is an example of a demand characteristic in everyday life?
- A) Professor Emanuel is much more passionate and engaging with his class when he knows that his teaching is being evaluated.
 - B) Alfreda turns down dessert because she is trying to lose weight as part of an overall plan to improve her health.
 - C) Rick takes a new running route because it is flatter and his knees have been hurting him in recent weeks.
 - D) Leanna signs up for courses outside her major that she feels will make her better prepared for graduate school.
68. Which statement is an example of a demand characteristic in everyday life?
- A) Self-report measures of everyday mood tend to fluctuate unsystematically.
 - B) People tend to evaluate physically attractive strangers as more positive on a plethora of dimensions than less attractive strangers.
 - C) University students who receive good grades in a course tend to rate that course higher than do students who receive low grades in the course.
 - D) Schoolchildren are much less rowdy on the bus after a noticeable video camera is mounted in the front of the bus.
69. Which statement is an example of a demand characteristic in everyday life?
- A) Carmen weighs the pros and cons of breaking up with her boyfriend.
 - B) Adelaide has a hard time getting out of bed on rainy mornings.
 - C) Dylan is asked by his girlfriend if her new jeans make her look fat.
 - D) Roberto's dog barks every time a person walks by the window.
70. A technique for gathering scientific information by unobtrusively watching people in their normal environments is termed:
- A) the case study approach.
 - B) descriptive statistics.
 - C) naturalistic observation.
 - D) experimentation.
71. A researcher using naturalistic observation will gather scientific information by:
- A) measuring participants on at least two variables.
 - B) unobtrusively watching people in their normal environments.
 - C) manipulating a variable and then measuring any effect on behaviour.
 - D) administering surveys to participants that ask questions about their daily lives.

72. Which description is the BEST example of naturalistic observation research methodology?
- A) a second-grade teacher manipulating reading materials to determine which promotes the greatest literacy
 - B) a psychologist measuring symptoms of depression using a survey
 - C) an inconspicuous economist observing the buying habits of shoppers at a grocery store
 - D) a professor evaluating the degree of student learning through exam performance
73. Which description is the BEST example of naturalistic observation research methodology?
- A) recording the attractiveness level of women approached by men at the bar
 - B) asking men to rate the attractiveness level of female faces while either sober or intoxicated
 - C) surveying university students about the qualities that they find attractive in a possible romantic partner
 - D) randomly assigning participants on first dates to either a hike in the woods or a city tour and then surveying their attitudes towards their partner
74. Reggie is curious about how many women versus men shake the handle of the gas pump after they finish fueling their automobiles. Reggie positions himself inside a minimart, where he appears to be a shopper, but all the while he is casually looking out a large window and recording the pump behaviour of women and men at the fueling stations. What type of research is Reggie conducting?
- A) double-blind observation
 - B) naturalistic observation
 - C) an experiment
 - D) a case study
75. A psychologist poses as a groundskeeper at a local golf course and records any instances of cheating. She finds that golfers in twosomes are less likely to cheat than golfers in foursomes. What type of research is the psychologist conducting?
- A) double-blind observation
 - B) naturalistic observation
 - C) an experiment
 - D) a case study

76. What is one reason why naturalistic observation alone cannot solve the problem of demand characteristics?
- A) Some things of interest to psychologists do not occur naturally.
 - B) It is impossible not to be detected.
 - C) People become angry if they discover that someone has been watching them.
 - D) Recording devices are too expensive for scientists to purchase.
77. What is one reason why naturalistic observation alone cannot solve the problem of demand characteristics?
- A) It is impossible not to be detected.
 - B) Some information requires direct interaction with participants.
 - C) People become angry if they discover that someone has been watching them.
 - D) Recording devices are too expensive for scientists to purchase.
78. What do the following have in common: a microphone concealed in the ceiling of a laboratory, filler items on a psychological survey meant to distract from a study's true purpose, and a misleading explanation told to participants about the purpose of a study?
- A) They all are forms of experimenter bias.
 - B) They all are examples of unethical research.
 - C) They all are examples of naturalistic observation.
 - D) They all are ways of avoiding demand characteristics.
79. Which technique is NOT used to reduce demand characteristics?
- A) ensuring participant anonymity
 - B) studying behaviour not under voluntary control
 - C) clearly identifying the purpose of the study to participants
 - D) observing people without their knowledge
80. What is the BEST way to make it LESS likely that people will be influenced by demand characteristics?
- A) pay them for their participation
 - B) randomly select them from the population
 - C) require that they sign their name to each survey that they complete
 - D) keep them from knowing the true purpose of the observation

81. A clinical psychologist is evaluating a client recovering from a substance abuse disorder to evaluate his likelihood of relapse. Which measure is LEAST susceptible to demand characteristics?
- A) measuring differences in blood pressure when exposed to drug paraphernalia
 - B) asking the client if he has used alcohol or drugs since their last session
 - C) asking the client to rate the severity of his daily cravings on a 10-point scale
 - D) showing the client photos of drug paraphernalia and asking him if the images are triggering cravings
82. A psychologist is hired by a company to determine which of several commercials might be most effective at stirring television viewers' interest. The psychologist shows these commercials to a group of participants. Which measure is LEAST susceptible to demand characteristics?
- A) participants' rank ordering of the commercials in terms of interest
 - B) participants' estimate of the likelihood that they would purchase the product based on commercial viewed
 - C) participants' pupil dilation during the commercials
 - D) participants' change in attitude towards the product before and after each commercial
83. In a classic experiment, psychology students were assigned to work either with "bright" rats or with "dull" rats, described as such by the experimenter. After a series of tests, the students' results showed that the "bright" rats had outperformed the "dull" rats. However, in fact, all the rats were of the same strain and breed; there were no preexisting differences between the groups. What caused the difference in their performance?
- A) By chance, the rats in one group actually were brighter than those in the other group.
 - B) Demand characteristics in the experiment cued the rats about how to perform in the mazes.
 - C) The students' expectations about the rats' performance influenced their observations and behaviours.
 - D) The students looked at average scores, rather than at each rat's individual score.

84. The results from the classic experiment involving psychology students randomly assigned to work either with "bright" rats or with "dull" rats suggest that:
- A) labelling students as "gifted" has negative effects on their social lives.
 - B) students identified as "not gifted" actually may work harder academically due to increased motivation.
 - C) labelling students as "gifted" actually has unintended negative consequences on academic performance.
 - D) students labelled as gifted do better in school because teachers treat them differently.
85. In a classic experiment, psychology students were assigned to work either with "bright" rats or with "dull" rats, described as such by the experimenter. In one task involving maze-running speed, students working with "bright" rats were more likely to stop timing early, as soon as the rat approached the goal box. This unintentional measurement error illustrates how:
- A) expectations can influence observations.
 - B) observations can influence measurement.
 - C) expectations can influence reality.
 - D) observations can influence reality.
86. In a classic experiment, psychology students were assigned to work either with "bright" rats or with "dull" rats, described as such by the experimenter. In a task involving learning a maze, rats arbitrarily labelled as "bright" learned the maze faster than did rats arbitrarily labelled as "dull." The experimenter suspected that the psychology students with "bright" rats took the learning task more seriously, and this was reflected in their rats' performance. This finding illustrates how:
- A) expectations can influence observations.
 - B) observations can influence measurement.
 - C) expectations can influence reality.
 - D) observations can influence reality.
87. Which technique helps REDUCE bias due to prior expectations?
- A) the case method
 - B) double-blind observation
 - C) use of a correlation coefficient
 - D) random sampling

88. An experiment in which the true purpose is hidden from the researcher as well as from the participant is called a:
- A) blind experiment.
 - B) double-blind experiment.
 - C) controlled experiment.
 - D) correlational study.
89. A double-blind study:
- A) necessarily has sufficient power to detect group differences.
 - B) usually lacks reliability.
 - C) minimizes expectancy effects.
 - D) cannot be used to determine cause and effect.
90. Dr. Gomez is investigating a new drug designed to reduce anxiety. Patients with an anxiety disorder are treated with either the drug or a sugar pill (placebo) for some time, and Dr. Gomez records their anxiety levels at weekly appointments. If a double-blind procedure is used:
- A) only Dr. Gomez will know which patients actually received the drug.
 - B) the patients will know if they are receiving the drug or the placebo.
 - C) Dr. Gomez will not be told the operational definition of anxiety.
 - D) Dr. Gomez will not know which patients actually received the drug.
91. Dr. Gomez is investigating a new drug designed to reduce anxiety. Patients with an anxiety disorder are treated with either the drug or a sugar pill (placebo) for some time, and Dr. Gomez records their anxiety levels at weekly appointments. If a double-blind procedure is used, who will know if a placebo or drug was administered?
- A) the patients but not Dr. Gomez
 - B) Dr. Gomez but not the patients
 - C) neither Dr. Gomez nor the patients
 - D) both Dr. Gomez and the patients
92. A graphical representation of the measurements of a sample that are arranged by the number of times each measurement was observed is a:
- A) Gaussian distribution.
 - B) frequency distribution.
 - C) normal distribution.
 - D) scatterplot.

93. A frequency distribution graphically displays the:
- A) number of times each measurement occurs.
 - B) probability of obtaining a particular measurement.
 - C) rate at which a target behaviour occurs.
 - D) average derived from a set of measurements.
94. A frequency distribution in which most measurements are concentrated around the mean and fall off towards the tails, and where the two sides of the distribution are symmetrical, is called a _____ distribution.
- A) normal
 - B) positively skewed
 - C) negatively skewed
 - D) standard
95. Another term for a normal distribution is a _____ distribution.
- A) standard
 - B) Gaussian
 - C) skewed
 - D) bimodal
96. Which characteristic describes a normal distribution?
- A) It is symmetrical around a single peak in the middle.
 - B) It has a peak at each end of the distribution.
 - C) It is skewed to one side or the other.
 - D) It resembles a straight line.
97. Which characteristic does NOT describe a normal distribution?
- A) It is symmetrical.
 - B) It has a peak in the middle.
 - C) It is positively skewed.
 - D) It trails off at both ends.
98. Professor Kim creates a frequency distribution of exam scores from her class of 300 students. Possible scores on the exam ranged from zero to 100. What should be displayed on the horizontal axis?
- A) the number of times each possible score occurred
 - B) each possible score
 - C) the mean of the 300 scores
 - D) the name of each student

99. Professor Kim creates a frequency distribution of exam scores from her class of 300 students. Possible scores on the exam ranged from zero to 100. What should be displayed on the vertical axis?
- A) the number of times each possible score occurred
 - B) each possible score
 - C) the mean of the 1,000 scores
 - D) the categorical labels "Not Depressed" and "Depressed"
100. An academic clinical psychologist uses Beck's Depression Inventory, a validated scale with scores ranging from 0 to 63, with higher scores indicating greater levels of depression, to measure depression levels in the population of 1,000 incoming freshmen students. She creates a frequency distribution of her findings. What should be displayed on the vertical axis?
- A) the number of times each possible score occurred
 - B) each possible score
 - C) the mean of the 1,000 scores
 - D) the categorical labels "Not Depressed" and "Depressed"
101. The MOST frequent measurement in a frequency distribution is the:
- A) mode.
 - B) mean.
 - C) median.
 - D) range.
102. The arithmetic average of the measurements in a frequency distribution is the:
- A) mode.
 - B) mean.
 - C) median.
 - D) range.
103. If an odd number of scores are put in order from lowest to highest, the score in the middle position is the:
- A) mode.
 - B) mean.
 - C) median.
 - D) range.

104. Half the measurements in a positively skewed frequency distribution are greater than or equal to the _____, and half are less than or equal to it.
- A) mode
 - B) mean
 - C) median
 - D) range
105. In a normal distribution, the peak of the distribution corresponds to which measurement(s)?
- A) the mode only
 - B) the mean only
 - C) the median only
 - D) the mode, mean, and median
106. Under which type of frequency distribution will the mode, mean, and median all assume the same value?
- A) a normal distribution
 - B) a positively skewed distribution
 - C) a two-peaked (bimodal) distribution
 - D) a one-peaked unsymmetrical distribution
107. In the number sequence 1 1 2 3 4 5, which number is the mode?
- A) 4
 - B) 3
 - C) 1
 - D) 2
108. In the number sequence 1 1 2 3 3 4 4 4 5, which number is the mode?
- A) 4
 - B) 3
 - C) 1
 - D) 27
109. What is the mean of the number sequence 1 1 2 4?
- A) 4
 - B) 3
 - C) 1
 - D) 2

110. What is the mean of the number sequence 1 1 2 6?
- A) 2
 - B) 2.5
 - C) 3
 - D) 3.5
111. In the number sequence 3 6 1 1 9, which number is the median?
- A) 4
 - B) 3
 - C) 1
 - D) 6
112. In the number sequence 5 2 4 6 3, which number is the median?
- A) 2
 - B) 3
 - C) 4
 - D) 5
113. Five extremely tall members of the university basketball team are among 30 students in an introductory psychology class. If a frequency distribution is taken of height, the distribution probably will be:
- A) normal.
 - B) positively skewed.
 - C) negatively skewed.
 - D) bimodal.
114. A group of five university students form a study group for their introductory psychology class. They study diligently and for much longer hours than the typical student. These five students are in the same introductory psychology class with 25 other students. If a frequency distribution is taken of study hours, the distribution probably will be:
- A) normal.
 - B) bimodal.
 - C) negatively skewed.
 - D) positively skewed.

115. A university dean is interested in measuring the research productivity of the seven members of the Psychology Department. The dean obtains the number of publications for each faculty member. They are as follows: 5, 10, 15, 15, 20, 25, and 180. If the dean wants to describe these data, which measure of central tendency would paint a misleading picture of the research productivity of the department?
- A) the mean
 - B) the median
 - C) the mode
 - D) the standard deviation
116. A kindergarten teacher has parents keep a log of the number of books read to their children per week. There are 20 children in the class. Most (18 of 20) of the parents reported reading 3–6 books per week. However, two parents each reported reading over 30 books per week to their children. If the teacher wants to describe these data, which measure of central tendency would paint a misleading picture of at-home reading?
- A) the mode
 - B) the median
 - C) the mean
 - D) the standard deviation
117. The grade distribution of an "easy" course, in terms of overall percentage score (0–100), is BEST described by a:
- A) normal distribution with a large standard deviation.
 - B) normal distribution with a small standard deviation.
 - C) negatively skewed distribution.
 - D) positively skewed distribution.
118. Life expectancy, in which the majority of people live to old age but some people die young, is BEST described by a:
- A) normal distribution with a large standard deviation.
 - B) normal distribution with a small standard deviation.
 - C) negatively skewed distribution.
 - D) positively skewed distribution.
119. In a negatively skewed distribution, the peak of the distribution corresponds to which measurement(s)?
- A) the mode only
 - B) the mean only
 - C) the median only
 - D) the mode, mean, and median

120. In a positively skewed distribution, the peak of the distribution corresponds to which measurement(s)?
- A) the mode only
 - B) the mean only
 - C) the median only
 - D) the mode, mean, and median
121. Which statement is TRUE if scores on an examination are negatively skewed?
- A) The modal score is the same as the median score.
 - B) The median score is greater than the mean score.
 - C) The mean score is greater than the modal score.
 - D) The peak of the frequency distribution corresponds to the mean score.
122. Which statement is TRUE if scores on an examination are positively skewed?
- A) The modal score is the same as the median score.
 - B) The median score is greater than the mean score.
 - C) The mean score is greater than the modal score.
 - D) The peak of the frequency distribution corresponds to the mean score.
123. The numerical difference between the smallest and largest measurements in a frequency distribution is the:
- A) mode.
 - B) mean.
 - C) median.
 - D) range.
124. Which descriptive statistic is a measure of variability?
- A) the mode
 - B) the mean
 - C) the median
 - D) the range
125. In the number sequence 3 6 1 1 9, what is the range?
- A) 4
 - B) 6
 - C) 1
 - D) 8

126. In the number sequence 3 6 2 3 12, what is the range?
- A) 3
 - B) 9
 - C) 10
 - D) 12
127. The statistic that describes the average distance between the measurements in a frequency distribution and the mean of that distribution is the:
- A) average distance of the individual scores from the mean of the distribution.
 - B) total distance of the individual scores from the mean of the distribution.
 - C) range of the distribution divided by the number of observations.
 - D) range of the distribution divided by the mean of the distribution.
128. Studies have shown that men and women have the same mean intelligence (IQ) score, but that men have a larger range and standard deviation of scores. Based on this information, which statement is TRUE?
- A) IQ scores are not normally distributed in men.
 - B) Men are more likely to have extremely high scores.
 - C) The modal IQ score between genders differs.
 - D) Women are more likely to have extremely low scores.
129. Intelligence tends to be normally distributed, and studies have shown that men and women have the same mean intelligence (IQ) score. However, intelligence scores in women tend to have a smaller range and standard deviation than those in men. Based on this information, which statement is true?
- A) The modal score in men is greater than the modal score in women.
 - B) The modal score in women is greater than the modal score in men.
 - C) Men are more likely to have extremely low scores.
 - D) Women are more likely to have extremely high scores.
130. A property with a value that can vary or change is called a(n):
- A) variable.
 - B) modifier.
 - C) adaptation.
 - D) outlier.

131. Correlations detect:
- A) the power of a measure.
 - B) patterns of variation in a series of measurements.
 - C) patterns of selection in a varied population.
 - D) sources of unsystematic error in a data set.
132. A synchronous pattern of variation between two variables, each of which has been measured several times, is referred to as:
- A) variance.
 - B) power deviation.
 - C) a correlation.
 - D) an operational definition.
133. The statement "Eating less spinach is associated with a shorter life span" is an example of:
- A) a correlation.
 - B) a causal relationship.
 - C) variation.
 - D) an estimate.
134. The statement "Class absences are associated with lower grades" is an example of a(n):
- A) correlation.
 - B) causal relationship.
 - C) normal distribution.
 - D) experiment.
135. A _____ correlation is associated with a less-is-less relationship.
- A) negative
 - B) positive
 - C) strong
 - D) weak
136. A _____ correlation is associated with a less-is-more relationship.
- A) negative
 - B) positive
 - C) strong
 - D) weak

137. Which statement describes a negative correlation?
- A) Increased time studying is associated with a higher GPA.
 - B) Life expectancy increases as body weight decreases.
 - C) Body weight tends to increase with increases in height.
 - D) People who eat more tend to weigh more.
138. Which statement describes a negative correlation?
- A) Stress levels decrease with increases in aerobic activity.
 - B) Personal debt increases with increases in alcohol consumption.
 - C) More time spent studying is associated with higher grades.
 - D) People who make less eye contact have fewer friends.
139. Increases in illegal drug use are associated with a higher risk of contracting HIV/AIDS. This is MOST clearly an example of:
- A) a positive correlation.
 - B) a negative correlation.
 - C) an experiment.
 - D) the double-blind technique.
140. The less frequently children watch violent television programming, the less aggressive children will tend to be. This is an example of:
- A) a positive correlation.
 - B) a negative correlation.
 - C) cause and effect.
 - D) an experiment.
141. People who drink more alcohol tend to have lower personal incomes. This is an example of:
- A) a positive correlation.
 - B) a negative correlation.
 - C) cause and effect.
 - D) an unreliable measure.
142. The more frequently people go to church, the less likely they are to use drugs and alcohol. This is an example of:
- A) a positive correlation.
 - B) a negative correlation.
 - C) cause and effect.
 - D) an experiment.

143. Which number represents the STRONGEST correlation coefficient (r)?
A) $-.8$
B) $.7$
C) $-.1$
D) 0
144. Which number represents the STRONGEST correlation coefficient (r)?
A) $-.50$
B) $.70$
C) $-.10$
D) 0.01
145. Which number represents the WEAKEST correlation coefficient (r)?
A) $-.8$
B) 1.0
C) $-.1$
D) $.5$
146. Which number represents the WEAKEST correlation coefficient (r)?
A) $-.8$
B) 1.0
C) $-.6$
D) $.5$
147. Which number represents the STRONGEST correlation coefficient (r)?
A) $-.5$
B) $.4$
C) $-.1$
D) 2.0
148. Which number represents the WEAKEST correlation coefficient (r)?
A) $-.5$
B) $.4$
C) $-.1$
D) -2.0

149. A scatterplot of a perfect positive correlation would depict a(n):
- A) linear increasing function.
 - B) linear decreasing function.
 - C) linear horizontal function.
 - D) absence of a linear relationship.
150. A scatterplot of a perfect negative correlation would depict a(n):
- A) linear increasing function.
 - B) linear decreasing function.
 - C) linear horizontal function.
 - D) absence of a linear relationship.
151. Correlations observed in the world around us are termed:
- A) natural experiments.
 - B) independent variables.
 - C) case studies.
 - D) natural correlations.
152. Natural correlations are:
- A) correlations that can be observed under strict laboratory conditions.
 - B) strong-to-perfect correlations.
 - C) correlations observed in the real world.
 - D) perfect correlations.
153. What does the third-variable problem indicate?
- A) The three variables are all causally related to one another; each is a cause of the others.
 - B) The correlation between any two of the variables must be established before another correlation can be computed.
 - C) Two of the variables are correlated with each other only because each is causally related to a third variable.
 - D) Changes in one variable are producing changes in another variable.

154. Research has shown that there is a correlation between the amount of violence a child sees on TV and the aggressiveness of the child's behaviour. One explanation of this correlation is that children who watch a great deal of violence on television have a lack of adult supervision. This explanation is an example of what kind of correlation?
- A) matched sample
 - B) matched pair
 - C) positive
 - D) third-variable
155. Fatima wants to study how ice cream consumption in a school cafeteria is related to aggressive playground behaviour during recess. She realizes that lack of teacher supervision is a possible third variable that could cause both overconsumption and aggressiveness. She studies only children who have received identical amounts of supervision during the day. What technique is Fatima using to attempt to control for this third variable?
- A) matched samples
 - B) matched pairs
 - C) matched supervisors
 - D) double-blind observation
156. An educational psychologist seeks to determine how the duration of studying is related to standardized test scores. She realizes that IQ is a possible third variable that could cause both studying and test score. As such, she studies only students who have approximately the same IQ. What technique is the psychologist using to attempt to control for this third variable?
- A) matched samples
 - B) matched pairs
 - C) matched supervisors
 - D) double-blind observation
157. In studying the correlation between the amount of time children watch violence on television and children's levels of aggressiveness, researchers found that a lack of adult supervision could be a third variable. To control for the third variable, researchers observed children who experienced different amounts of supervision. They made sure that for every child observed who watched a lot of violence on television and was supervised X% of the time, they also observed another child who did not watch a lot of violence on television and was supervised X% of the time. This method is called:
- A) third-variable correlation.
 - B) matched samples.
 - C) matched pairs.
 - D) manipulation.

158. Why do neither matched samples nor matched pairs effectively eliminate the possibility of a third-variable correlation?
- A) Each technique depends on the other; matched samples are studied first, followed later by matched pairs.
 - B) Both techniques allow us to rule out a particular third variable as a causal agent, but not the possibility of other third variables.
 - C) Both techniques fail to utilize random sampling.
 - D) By eliminating specific third variables, cause-and-effect relations are artificially established.
159. What is the third-variable problem in reference to correlational studies?
- A) Third variables act causally on some other variables, but not on all other variables.
 - B) Each variable in a correlation exerts a causal influence on the other.
 - C) A causal relationship between two variables cannot be inferred from the correlation between two variables.
 - D) Correlations can be caused only by another (third) variable.
160. What is the BIGGEST limitation in natural correlation research?
- A) Natural correlations tell us nothing about the relationship between two variables.
 - B) A causal relationship cannot be inferred.
 - C) Natural correlations have no predictive power.
 - D) Most of the time, natural correlations are too complicated to determine.
161. Correlation is to _____ as experimentation is to _____.
- A) measurement of variables; manipulation of variables
 - B) single variables; multiple variables
 - C) manipulation of variables; measurement of variables
 - D) unobtrusiveness; correlation
162. What is the main advantage of experimentation over correlation in determining causal relationships?
- A) Experimentation offers the possibility of controlling for all potential third variables at once.
 - B) Experimentation involves multiple variables, whereas correlation involves only two variables.
 - C) Experimentation systematically controls third variables one at a time, in sequence.
 - D) Experimentation uses the matched pairs and matched samples techniques to control for specific third variables.

163. What are the two key features of an experiment?
- A) manipulation and random assignment
 - B) manipulation and correlation
 - C) random assignment and correlation
 - D) manipulation and predictability
164. Manipulation and random assignment are two key features of:
- A) naturalistic observation.
 - B) matched-samples correlational designs.
 - C) an experiment.
 - D) natural correlations.
165. What is the only way to determine a causal relationship between two variables?
- A) observation
 - B) correlation
 - C) measurement
 - D) experimentation
166. If Dr. Smith wants to determine whether drinking alcohol causes feelings of sadness, what research strategy should be used?
- A) experiment
 - B) natural correlation
 - C) matched pairs correlation
 - D) case study method
167. If an investigator wants to determine if playing violent video games causes aggression, what research strategy should be used?
- A) naturalistic observation
 - B) natural correlation
 - C) matched pairs correlation
 - D) experiment

168. In an experiment, researchers exposed half the children to 2 hours of violence on television every day for a month and made sure the other half saw no violence on television at all. At the end of the month, they measured the aggressiveness in the children. The fact that the researchers arranged for some children to watch violence on television and for others to not do so is an example of:
- A) matched pairs.
 - B) matched samples.
 - C) correlation.
 - D) manipulation.
169. What does the term *manipulation* mean in the context of performing an experiment?
- A) the ability to design an experiment so that participants react in certain predetermined ways
 - B) the ability to change a variable in order to determine its causal powers
 - C) the ability to hold constant third variables
 - D) the ability to control the responses of research participants
170. In the context of an experiment, the variable that is manipulated is termed the _____ variable.
- A) independent
 - B) dependent
 - C) third
 - D) predictor
171. In the context of an experiment, the independent variable is the variable that is:
- A) eliminated.
 - B) held constant.
 - C) manipulated.
 - D) measured.
172. In the context of an experiment, the variable that is measured is termed the _____ variable.
- A) independent
 - B) dependent
 - C) third
 - D) predictor

173. In the context of an experiment, the dependent variable is the variable that is:
- A) eliminated.
 - B) held constant.
 - C) manipulated.
 - D) measured.
174. In the context of an experiment, participants in the experimental group:
- A) are exposed to a third variable.
 - B) behave as they normally would.
 - C) receive a particular manipulation.
 - D) are not treated differently from any other participants.
175. In an experiment, researchers exposed half the children to 2 hours of violence on television every day for a month and made sure the other half saw no violence on television at all. At the end of the month, they measured the level of aggressiveness in the children. What is/are the independent variable(s)?
- A) the level of aggressiveness at the end of the month
 - B) the amount of violence watched on television
 - C) the level of aggressiveness at the end of the month and the amount of violence watched on television
 - D) the children
176. In an experiment, researchers exposed half the children to 2 hours of violence on television every day for a month and made sure the other half saw no violence on television at all. At the end of the month, they measured the level of aggressiveness in the children. What is/are the dependent variable(s)?
- A) the level of aggressiveness at the end of the month
 - B) the amount of violence watched on television
 - C) the level of aggressiveness at the end of the month and the amount of violence watched on television
 - D) the children
177. In an experiment, researchers exposed half the children to 2 hours of violence on television every day for a month and made sure the other half saw no violence on television at all. At the end of the month, they measured the level of aggressiveness in the children. What were the children who were exposed to violent television?
- A) the dependent variable
 - B) the independent variable
 - C) the control group
 - D) the experimental group

178. In an experiment, researchers exposed half the children to 2 hours of violence on television every day for a month and made sure the other half saw no violence on television at all. At the end of the month, they measured the level of aggressiveness in the children. What were the children who were NOT exposed to any violence on television?
- A) the dependent variable
 - B) the independent variable
 - C) the control group
 - D) the experimental group
179. In an experiment, researchers exposed half of the participants to loud noise during a memory-encoding task. The room was quiet for the other half of the participants. Later, all participants were given a memory test and the number of correct items recalled was obtained for each participant. What is the independent variable?
- A) the number of items recalled
 - B) the noise level during the encoding task
 - C) the time interval between encoding and recall
 - D) the probability of being assigned to the two groups
180. In an experiment, researchers exposed half of the participants to loud noise during a memory-encoding task. The room was quiet for the other half of the participants. Later, all participants were given a memory test and the number of correct items recalled was obtained for each participant. What is the dependent variable?
- A) the number of items recalled
 - B) the noise level during the encoding task
 - C) the time interval between encoding and recall
 - D) the probability of being assigned to the two groups
181. In an experiment, researchers exposed half of the participants to loud noise during a memory-encoding task. The room was quiet for the other half of the participants. Later, all participants were given a memory test and the number of correct items recalled was obtained for each participant. The participants who encoded information in the noisy room constitute the:
- A) independent variable.
 - B) dependent variable.
 - C) experimental group.
 - D) control group.

182. In an experiment, researchers exposed half of the participants to loud noise during a memory-encoding task. The room was quiet for the other half of the participants. Later, all participants were given a memory test and the number of correct items recalled was obtained for each participant. The participants who encoded information in the quiet room constitute the:
- A) independent variable.
 - B) dependent variable.
 - C) experimental group.
 - D) control group.
183. Researchers wanted to see if adults were actually afraid of the dark by exposing them to different levels of light in a room while measuring their heart rates. In this experiment, what are the different levels of light?
- A) the dependent variable
 - B) the independent variable
 - C) the control group
 - D) the experimental group
184. Researchers wanted to see if adults were actually afraid of the dark by exposing them to different levels of light in a room while measuring their heart rates. In this experiment, what are the heart rates of the participants?
- A) the dependent variable
 - B) the independent variable
 - C) the control group
 - D) the experimental group
185. When one manipulates an independent variable, at least how many groups are created?
- A) one
 - B) two
 - C) three
 - D) four
186. When the _____ variable is manipulated, at least _____ group(s) is/are created.
- A) dependent; one
 - B) dependent; two
 - C) independent; one
 - D) independent; two

187. Researchers wanted to see if listening to calm music would reduce heart rates. Half of the research participants sat quietly and listened to calm music, and the other half sat quietly and listened to no music at all. The group that listened to the music is called the:
- A) dependent variable.
 - B) independent variable.
 - C) control group.
 - D) experimental group.
188. Researchers wanted to see if listening to calm music would reduce heart rates. Half of the research participants sat quietly and listened to calm music, and the other half sat quietly and listened to no music at all. The group that did NOT listen to the music is called the:
- A) dependent variable.
 - B) independent variable.
 - C) control group.
 - D) experimental group.
189. A researcher wants to assess the effects of varying amounts of alcohol on ratings of perception of friendliness. Three groups of people are given either one, two, or three beers to drink. Three more groups of people are given either one, two, or three non-alcoholic beers to drink. Then, all participants are shown a series of pictures of people's faces and are asked to rank the perceived friendliness of each face on a scale from 1 to 10. In this experiment, the independent variable is:
- A) the number of groups.
 - B) the amount of alcohol consumed.
 - C) the pictures of faces.
 - D) ratings of perceived friendliness.
190. A researcher wants to assess the effects of varying amounts of alcohol on ratings of perception of friendliness. Three groups of people are given either one, two, or three beers to drink. Three more groups of people are given either one, two, or three non-alcoholic beers to drink. Then, all participants are shown a series of pictures of people's faces and are asked to rank the perceived friendliness of each face on a scale from 1 to 10. Each face was presented for 5 seconds. In this experiment, the dependent variable is:
- A) the number of groups.
 - B) whether or not the beer contained alcohol.
 - C) how long each participant was allowed to look at each face.
 - D) the rating of perceived friendliness.

191. Wally wants to see if room temperature affects happiness. He invites participants to the laboratory, where half are seated for 20 minutes in a booth held at a constant 19 degrees, and the other half are seated in an identical booth for 20 minutes at a constant 29 degrees. Wally then asks members of each group to rate their level of happiness. What is the independent variable in this experiment?
- A) the number of participants
 - B) the elapsed time
 - C) the temperature of the booths
 - D) the rating of happiness
192. Wally wants to see if room temperature affects happiness. He invites participants to the laboratory, where half are seated for 20 minutes in a booth held at a constant 19 degrees, and the other half are seated in an identical booth for 20 minutes at a constant 29 degrees. Wally then asks members of each group to rate their level of happiness. What is the dependent variable in this experiment?
- A) the number of participants
 - B) the elapsed time
 - C) the temperature of the booths
 - D) the rating of happiness
193. _____ occurs when participants decide if they wish to be studied in the experimental or control group.
- A) Self-selection
 - B) Random assignment
 - C) Informed consent
 - D) Random sampling
194. What is the major problem associated with self-selection as a way to assign participants to the experimental and control groups?
- A) The treatment necessarily will work in the experimental group because those participants are especially motivated.
 - B) The two groups probably will differ on many variables besides whether or not they received the treatment.
 - C) Self-selection violates the requirement for informed consent.
 - D) Self-selection prevents the manipulation of the independent variable and measurement of the dependent variable.

195. _____ occurs when participants are assigned to the experimental or control group by a coin flip.
- A) Self-selection
 - B) Random assignment
 - C) Double-blind experimentation
 - D) Random sampling
196. Random assignment involves randomly:
- A) selecting participants for inclusion into the experiment.
 - B) determining which variable will be manipulated and which will be measured.
 - C) determining how many levels of the independent variable will be investigated.
 - D) placing participants into the different groups of the experiments.
197. Diana wants to see if heat causes happiness. She asks 100 participants to come to the laboratory, and as they walk in, she asks each person to choose a warm booth or a cool booth. On the basis of their choices, participants spend 20 minutes in one or the other booth before rating their levels of general happiness. What's wrong with Diana's experiment?
- A) She didn't choose an independent variable.
 - B) She didn't measure a dependent variable.
 - C) She didn't randomly assign participants to the experimental and control groups.
 - D) She didn't expose participants to both the warm and cool booths.
198. Jennifer wants to see if the color of the testing room causes test anxiety. She asks 100 participants to come to a modified classroom, and as they walk in, she asks each person to choose either a testing cubicle painted bright red or a testing cubicle painted off white. On the basis of their choices, participants spend 20 minutes in one or the other cubicle solving challenging math problems. Then, they complete a survey asking them questions about how anxious they were during the math test. What's wrong with Jennifer's experiment?
- A) She didn't choose an independent variable.
 - B) She didn't measure a dependent variable.
 - C) She didn't randomly assign participants to the experimental and control groups.
 - D) She didn't expose participants to both colors.
199. Which method does NOT use random assignment to assign participants to groups?
- A) basing group assignment on a coin flip
 - B) basing group assignment on a dice roll
 - C) basing group assignment on the outcome of a random number generator
 - D) basing group assignment on the order in which participants arrive to be studied

200. Random assignment to groups helps ensure that:
- A) demand characteristics in each group are minimized.
 - B) an independent variable is manipulated in each group.
 - C) groups do not differ on variables not of interest.
 - D) a correlation does not exist between the independent and dependent variable.
201. Williams and Ceci (2015) sought to determine if gender biases exist in academic hiring practices. They studied almost 1,000 professors in a mock hiring situation in which each professor read the files of several job applicants and then rank-ordered the applicants in terms of most-to-least qualified. What the professors did not know was that the gender of the job applicants was randomly assigned to the professors. That is, if one professor read that job applicant A was a woman, another professor read that the same job applicant A was a man. As a result, an average rating of each applicant could be compared when that applicant was presented as a male and as a female. In this study, what is the dependent variable?
- A) the number of professors
 - B) the rank order
 - C) the gender of the applicants
 - D) the number of applicants
202. Williams and Ceci (2015) sought to determine if gender biases exist in academic hiring practices. They studied almost 1,000 professors in a mock hiring situation in which each professor read the files of several job applicants and then rank-ordered the applicants in terms of most-to-least qualified. What the professors did not know was that the gender of the job applicants was randomly assigned to the professors. That is, if one professor read that job applicant A was a woman, another professor read that the same job applicant A was a man. As a result, an average rating of each applicant could be compared when that applicant was presented as a male and as a female. In this study, what is the independent variable?
- A) the number of professors
 - B) the rank order
 - C) the gender of the applicants
 - D) the number of applicants

203. Williams and Ceci (2015) sought to determine if gender biases exist in academic hiring practices. They studied almost 1,000 professors in a mock hiring situation in which each professor read the files of several job applicants and then rank-ordered the applicants in terms of most-to-least qualified. What the professors did not know was that the gender of the job applicants was randomly assigned to the professors. That is, if one professor read that job applicant A was a woman, another professor read that the same job applicant A was a man. As a result, an average rating of each applicant could be compared when that applicant was presented as a male and as a female. The authors reported that:
- A) academic professors had a bias for hiring male applicants.
 - B) academic professors had a bias for hiring female applicants.
 - C) gender biases existed for the hard sciences such as biology, but not for the social sciences.
 - D) no systematic gender biases were observed among the academic professors.
204. When random assignment fails to create equivalent groups, the problem of _____ occurs.
- A) sampling error
 - B) self-selection
 - C) third variables
 - D) external validity
205. Experiments do not adequately control for third variables when:
- A) participants are not randomly selected for study.
 - B) not enough levels of the independent variable are studied.
 - C) the manipulation actually causes changes in the dependent variable.
 - D) random assignment fails to create equivalent groups.
206. If differences between the experimental and control groups are obtained, and when the odds are acceptably low that random assignment hasn't failed in an experiment, the results of the experiment are said to be:
- A) applicable to the real world.
 - B) certain.
 - C) statistically significant.
 - D) operationally defined.

207. Descriptive statistics include measures such as mean or standard deviation. What is another group of statistics that is used to determine what kind of conclusions can be drawn from the results of an experiment?
- A) inferential statistics
 - B) applied statistics
 - C) internal statistics
 - D) validity coefficients
208. A result is said to be statistically significant if the odds that random assignment has failed in an experiment are less than ____%.
- A) 2
 - B) 5
 - C) 10
 - D) 25
209. A p -value is a(n):
- A) measure of central tendency.
 - B) measure of variability.
 - C) descriptive statistic.
 - D) inferential statistic.
210. The experimental and control groups differ on the dependent measure. Which result of an inferential statistic would indicate a statistically significant result?
- A) $p > .5$
 - B) $p < .5$
 - C) $p > .05$
 - D) $p < .05$
211. The characteristic of an experiment that establishes the causal relationship between variables is termed:
- A) power.
 - B) reliability.
 - C) internal validity.
 - D) external validity.

212. If an experiment is internally valid, then one can infer that:
- A) manipulating the independent variable caused the changes in the dependent variable.
 - B) the independent and dependent variables were correlated but not necessarily causally related.
 - C) the variables were defined optimally in terms of validity.
 - D) the same results would be obtained if we replicated the experiment in a different population.
213. External validity means that:
- A) an experiment used reliable measures of the independent variable.
 - B) a correlation was established between an independent and a dependent variable.
 - C) an experiment has been verified by a group of scientists not associated with the study.
 - D) the variables in an experiment have been defined in a normal, typical, or realistic way.
214. The closer an experiment is to arranging circumstances similar to those in the real world, the more psychologists can claim it has:
- A) internal validity.
 - B) external validity.
 - C) reliability.
 - D) statistical significance.
215. Most experiments in psychology lack:
- A) external validity.
 - B) internal validity.
 - C) randomization.
 - D) manipulation.
216. Externally invalid experiments are not problematic when the goal of the research is to:
- A) model a real-world phenomenon.
 - B) generalize research findings to different cultures.
 - C) make naturalistic observations.
 - D) test hypotheses derived from theories.

217. The chair of the Psychology Department wants to determine the average GPA of all psychology majors at the university. She compiles a list of the GPAs of all the psychology majors and calculates the average. The chairperson is working with data from a(n):
- A) experiment.
 - B) population.
 - C) sample.
 - D) case study.
218. The chair of the Psychology Department wants to determine the average GPA of all the psychology majors in Canada. She randomly selects 20 universities and compiles a list of the GPAs of all the psychology majors at those institutions. This list represents a(n):
- A) experimental group.
 - B) population.
 - C) sample.
 - D) case study.
219. The size of the population is signified by which symbol?
- A) n
 - B) N
 - C) p
 - D) P
220. The size of the sample is signified by which symbol?
- A) n
 - B) N
 - C) s
 - D) S
221. Dr. Sardonicus learned of a woman whose tongue turned a bright shade of green whenever she felt stressed. Although this is a rare event in the general population, Dr. Sardonicus nonetheless interviewed the woman at great length and made detailed observations about her behaviour. Dr. Sardonicus used _____ to gather data.
- A) naturalistic observation
 - B) the case method
 - C) random sampling
 - D) the law of large numbers

222. A psychologist who studies memory processes by investigating the remarkable ability of Akira Haraguchi to accurately recite pi to 100,000 digits is using:
- A) experimentation.
 - B) the case method.
 - C) self-selection.
 - D) the double-blind technique.
223. The phrase " $n = 1$ " means that:
- A) the results are not statistically significant.
 - B) there is a perfect correlation between two variables.
 - C) there is only one participant in the study.
 - D) there is only one independent variable.
224. Which mathematical expression distinguishes the case method from other types of research?
- A) $n > N$
 - B) $N > n$
 - C) $n = 1$
 - D) $N < .05$
225. When every member of a population has an equal chance of being included in a sample, what sampling process is being used?
- A) reliability sampling
 - B) random assignment
 - C) random sampling
 - D) convenience sampling
226. When every member of a population has an equal chance of being included in a sample, the sample is said to be _____ the population.
- A) representative of
 - B) replicable to
 - C) statistically significant to
 - D) internally valid to
227. Random selection allows psychologists to _____ the sample to the population.
- A) infer causation from
 - B) compare
 - C) generalize from
 - D) remove third variables from

228. Random _____ allows psychologists to generalize from the _____ to the _____.
- A) selection; population; sample
 - B) selection; sample; population
 - C) assignment; population; sample
 - D) assignment; sample; population
229. Which statement accurately summarizes the way psychologists gather research participants?
- A) Psychologists generally use random samples of the population.
 - B) Psychologists typically use volunteers, often drawn from a university population.
 - C) Psychologists typically select participants at random from the phone book.
 - D) Psychologists only select participants who outwardly appear to be of average intelligence.
230. Psychologists usually select participants for study based on:
- A) convenience.
 - B) random sampling.
 - C) random assignment.
 - D) matched pairs.
231. If researchers are interested in whether or not it is possible for a person to have a reaction time less than 0.05 seconds, and they simply measure the reaction times of volunteers who sign up for the study, what rationale would the researchers give for not using random sampling?
- A) Sometimes generality does not matter.
 - B) Sometimes generality cannot be determined.
 - C) Sometimes generality can be determined.
 - D) Sometimes generality is best determined by nonrandom sampling.
232. If researchers are interested in whether or not it is physically possible for a person to work with more than seven pieces of information in short-term memory, what rationale would the researchers give for not using random sampling?
- A) Sometimes generality does not matter.
 - B) Sometimes generality cannot be determined.
 - C) Sometimes generality can be determined.
 - D) Sometimes generality is best determined by nonrandom sampling.

233. If researchers measure how some Canadian children behave after playing a violent video game for 2 hours and then replicate the experiment with Asian, European, and African children and then with teenagers, the researchers would be using which justification of nonrandom sampling?
- A) Sometimes generality does not matter.
 - B) Sometimes generality is the cause of the effect.
 - C) Sometimes generality can be determined.
 - D) Sometimes generality can be assumed.
234. If researchers are interested in the average time it takes to press a button when a green light flashes on a screen, and they simply measure the reaction times of volunteers who sign up for the study, what rationale would the researchers give for not using random sampling?
- A) Sometimes generality does not matter.
 - B) Sometimes generality cannot be determined.
 - C) Sometimes generality can be determined.
 - D) Sometimes generality can be assumed.
235. The generality of a study's results can be empirically determined in a(n):
- A) natural correlation.
 - B) experimental design.
 - C) case method.
 - D) direct replication with a new sample.
236. The scientific method was FIRST formalized by:
- A) Newton.
 - B) Galileo.
 - C) Bacon.
 - D) Descartes.
237. Which statement about critical thinking is TRUE?
- A) Humans have a natural tendency to evaluate evidence critically.
 - B) Courses designed to increase critical thinking usually are effective.
 - C) Decisions based on empirical data necessarily involve critical thinking.
 - D) Thought patterns that have been evolutionary adaptive often interfere with the ability to critically evaluate evidence.

238. Humans have a natural tendency to:
- A) notice evidence that is inconsistent with their beliefs.
 - B) ignore what we can't see.
 - C) engage in critical thinking as a default cognitive strategy.
 - D) give undue importance to events that are contrary to their wishes or desires.
239. Darley and Gross (1983) showed participants a video of a girl taking a reading test. They then asked participants to rate the girl's academic ability. These researchers found that participants rated her academic ability higher if they thought that she:
- A) was from an affluent family.
 - B) was from an extremely religious family.
 - C) had struggled to overcome her family's poverty.
 - D) was 10 years of age instead of 12 years of age.
240. Darley and Gross (1983) showed participants a video of a girl taking a reading test. Some participants were told that the girl was from an affluent family and others were told that she was from a poor family. Then participants were asked to rank the girl's academic abilities. Which statement regarding the findings of this experiment is TRUE?
- A) Ratings were unaffected by knowledge of the girl's socioeconomic status as long as she was dressed similarly in both videos.
 - B) Ratings were unaffected by knowledge of the girl's socioeconomic status as long as the girl performed equally well on the reading test in both videos.
 - C) Ratings were higher if they thought the girl was affluent relative to poor, but participants could not justify these ratings with evidence from the video.
 - D) Ratings were higher if they thought the girl was affluent relative to poor, and participants could justify these ratings with evidence from the video.
241. Participants in one study (Lord, Ross, & Lepper, 1979) were first asked about their beliefs regarding the death penalty, and then they were provided with evidence both for and against it. After studying these materials, beliefs about the death penalty were reassessed. This study found that participants:
- A) reported their original beliefs were weakened after evaluating arguments on both sides of the debate.
 - B) were more likely to favour the death penalty, regardless of their original beliefs.
 - C) were more likely to oppose the death penalty, regardless of their original beliefs.
 - D) reported their original beliefs were strengthened after evaluating arguments on both sides of the debate.

242. Suppose that a local government is considering a construction project that will cost taxpayers a large amount of money. Residents have strong views on both sides of the debate. In an attempt to educate the public, the city arranges several informational sessions in which the pros and cons of the project are discussed. Which result is consistent with the psychological literature?
- A) Residents' original attitudes towards the project would be strengthened by attending the informational sessions.
 - B) Residents' original attitudes towards the project would be weakened slightly by attending the informational sessions.
 - C) The majority of the residents would change their minds after hearing evidence on both sides of the debate.
 - D) The informational sessions would have no effect whatsoever on residents' attitudes towards the project.
243. University administrators are presented with mixed evidence that a recent initiative to increase first-year success among its students has been effective. Based on results from the psychological literature, the administrators probably will decide to:
- A) discontinue the program in the absence of clear evidence of effectiveness.
 - B) reduce funding for the program as a result of the ambiguous evidence.
 - C) continue to fund the program fully for one additional year with the intent to discontinue the program if the data next year are inconclusive.
 - D) continue to fund the program as a result of perceived encouraging evidence of effectiveness.
244. People are more critical of new evidence that is:
- A) consistent with common sense.
 - B) consistent with their attitudes or beliefs.
 - C) inconsistent with their attitudes or beliefs.
 - D) presented using emotionally charged language.
245. When presented with information that is inconsistent with their attitudes or beliefs, people generally ask themselves which question?
- A) Is there any evidence here that would make me reconsider my opinion?
 - B) Is this evidence stronger than the evidence consistent with my beliefs?
 - C) What would be the social repercussions if I change my mind on this issue?
 - D) Is this information flawed or limited in some way?

246. Consistent with psychological research, politicians tend to surround themselves with advisors who:
- A) like to play devil's advocate and challenge the politicians' beliefs on policy issues.
 - B) validate the politicians' beliefs on most policy issues.
 - C) present both sides of a policy issue in a fair and balanced way.
 - D) spend more time objectively considering evidence that opposes the politicians' beliefs.
247. Jeff must find four sources for a term paper he is writing on corporal punishment (i.e., spanking). Jeff's family spanked him when he misbehaved as a child, and Jeff believes that it is a useful behavioural modification technique. If Jeff is like most people, he probably will:
- A) find four studies suggesting that corporal punishment is effective and relatively harmless.
 - B) find four studies suggesting that corporal punishment is dangerous but then attempt to discredit this research.
 - C) review two studies on each side of the debate in a fair and balanced way.
 - D) change his mind once reviewing the evidence on both sides of the debate.
248. April must find four sources for a term paper she is writing on the effectiveness of public assistance such as welfare in combatting poverty. April tends to oppose welfare on philosophical grounds. April probably will:
- A) summarize four studies suggesting that welfare is actually effective in order to consciously guard against her known biases.
 - B) find four studies suggesting that welfare is effective but then attempt to discredit this research.
 - C) review two studies on each side of the debate in a fair and balanced way.
 - D) summarize four studies suggesting that welfare is ineffective at combatting poverty.
249. Which statement about the role of missing evidence in decision making is TRUE?
- A) People have a natural tendency to seek out informational gaps in order to arrive at the best possible decision.
 - B) People usually overvalue the importance of missing evidence.
 - C) People usually ignore missing evidence.
 - D) People have a strong tendency to actively seek missing information if what is missing would challenge their existing beliefs.

250. The public is excited about a new cancer-fighting drug that has saved the lives of over 1,000 people diagnosed with terminal cancer in just the last year. People may misjudge the effectiveness of the drug, primarily because they rarely ask which question?
- A) Does the expense of the drug make its use impractical?
 - B) What are the side effects of the drug?
 - C) Is the drug more effective than not obtaining any treatment?
 - D) How many people took the drug and nevertheless died?
251. The public gets suckered into buying the latest weight-loss supplement from television infomercials featuring many testimonials that the supplement is effective, precisely because they rarely consider which question?
- A) How expensive will this supplement be to use long term?
 - B) Do the side effects of the supplement outweigh the weight-loss benefits?
 - C) How many people have taken the supplement and not lost weight?
 - D) Is the supplement more effective than diet and exercise?
252. According to the textbook, the FIRST rule of critical thinking is to:
- A) be sceptical of everything.
 - B) only trust what you observe.
 - C) doubt your own conclusions.
 - D) believe information published in scientific journals.
253. Doubting one's own conclusions is:
- A) inconsistent with the scientific method.
 - B) a vital component of critical thinking.
 - C) an adaptive psychological tendency that results from our evolutionary past.
 - D) a maladaptive pattern of thinking that is taught to us at an early age.
254. In order to develop your critical thinking skills, you should:
- A) try to avoid being sceptical of new evidence.
 - B) surround yourself with people who do not share your views.
 - C) believe everything published in quality scientific journals.
 - D) not base decisions on missing evidence.
255. According to the textbook, the second rule of critical thinking is to:
- A) be sceptical of everything.
 - B) only trust what you observe.
 - C) consider what you don't see.
 - D) believe information published in scientific journals.

256. A psychologist discovers an important research finding in her laboratory that is seemingly inconsistent with what other researchers have found. Her new results have profound implications with regard to our understanding of human behaviour. If the psychologist is critically thinking, she should first:
- A) critically evaluate previous research looking for flaws.
 - B) attempt to replicate her own findings and rule out alternative explanations for her results.
 - C) consider how general her findings are to people living in other cultures.
 - D) contact the press and begin publicizing her findings.
257. An archaeologist discovers new evidence suggesting humans inhabited a particular area long before it was originally believed. If the archaeologist is critically thinking, she should first:
- A) critically evaluate the work of other archaeologists who argue the opposite.
 - B) contact her professional colleagues who share her views and spread the good news.
 - C) conduct additional tests on the evidence in an attempt to falsify her results.
 - D) contact the press and begin publicizing her findings.
258. An archaeologist discovers new evidence suggesting humans inhabited a particular area long before it was originally believed. Because these results are so novel, if the archaeologist is critically thinking, she should first:
- A) critically evaluate the work of other archaeologists who argue the opposite.
 - B) contact archaeologists who oppose this viewpoint and ask them to evaluate her evidence.
 - C) begin writing a book on her findings.
 - D) contact the press and begin publicizing her findings.
259. An archaeologist discovers new evidence suggesting humans inhabited a particular area long before it was originally believed. Because these results are so novel, if the archaeologist is critically thinking, she should first:
- A) critically evaluate the work of other archaeologists who argue the opposite.
 - B) contact archaeologists who share her views and ask them to evaluate her evidence.
 - C) begin writing a book on her findings.
 - D) look for additional evidence that humans inhabited the area which may still be missing.

260. As a feature of ethical research, the term *just* refers to which statement?
- A) Risks and benefits should be distributed fairly to participants.
 - B) Deception should not be used.
 - C) Researchers should attempt to maximize the benefits and minimize the risks to participants.
 - D) Researchers should obtain an informed consent form from participants.
261. An educational psychologist is interested in comparing two educational techniques in a sample of preschool children. In part because she believes that one technique might be more effective than the other, children are randomly assigned to the two techniques so that every child has the same opportunity to be assigned to the more effective technique. Randomly assigning students to groups satisfies which feature of ethical research?
- A) external validity
 - B) beneficence
 - C) being just
 - D) respecting persons
262. A psychiatrist is interested in comparing two different drugs to treat depression in a sample of patients. Because the drugs may differ in terms of both their effectiveness and side effects, patients are randomly assigned to the two drug conditions. Randomly assigning patients to groups satisfies which feature of ethical research?
- A) external validity
 - B) beneficence
 - C) being just
 - D) respecting people
263. Participants in psychological research are free to end their participation at any time, with no threat of retribution or punishment. This freedom is consistent with which feature of ethical research?
- A) external validity
 - B) beneficence
 - C) being just
 - D) respecting people
264. It is unethical to coerce people into participating in research, even if the research is ultimately beneficial, because doing so violates which feature of ethical research?
- A) external validity
 - B) beneficence
 - C) being just
 - D) respecting people

265. Informed consent:
- A) must be obtained before individuals participate in an experiment.
 - B) is strongly recommended but not mandatory for individuals participating in an experiment.
 - C) is not necessary unless painful stimuli are involved.
 - D) is mandatory only for participants over 18 years of age.
266. The ethical principle of _____ means that research participants are given enough information about a study to make a reasonable decision about whether or not to participate.
- A) freedom from coercion
 - B) informed consent
 - C) debriefing
 - D) protection from harm
267. Jill decides to participate in research studies conducted by professors in the Psychology Department. Before a study begins, she is given what looks like a contract that describes the study, as well as the risks and benefits of participating. This represents:
- A) debriefing.
 - B) informed consent.
 - C) demand characteristics.
 - D) research instructions.
268. An instructor makes it clear to his psychology students that if they do not participate in his research, they will receive a failing grade. What ethical principle has the instructor violated?
- A) freedom from coercion
 - B) informed consent
 - C) debriefing
 - D) protection from harm
269. If there are two different research methodologies that both would answer a particular research question, psychologists are obligated to use whichever methodology minimizes risk to participants. This illustrates which ethical principle?
- A) freedom from coercion
 - B) informed consent
 - C) debriefing
 - D) protection from harm

270. Which statement regarding deception in psychological research is TRUE?
- A) Deception cannot be used.
 - B) Deception is a standard practice to minimize demand characteristics and does not need to be justified.
 - C) Deception cannot be used if it puts participants at risk of harm or pain.
 - D) Deception involving exposure to harm or pain is only justified if debriefing is provided.
271. Which statement regarding deception in psychological research is TRUE?
- A) Deception cannot be used.
 - B) Deception is a standard practice to minimize demand characteristics and does not need to be justified.
 - C) Deception can be used only when alternative procedures are not available and the study has applied or scientific value.
 - D) Deception can be used anytime it answers an important scientific question.
272. As part of her course requirements, Jill participates in research studies conducted by professors. After she participates, she is fully informed about the nature of the study. This describes:
- A) debriefing.
 - B) informed consent.
 - C) demand characteristics.
 - D) risk-benefit analysis.
273. As part of her course requirements, Jill participates in research studies conducted by professors. After she participates, she is debriefed during which:
- A) researchers attempt to put her in a good mood prior to her leaving the study.
 - B) she is informed if the scientific merits learned from her participation outweigh her right to confidentiality.
 - C) she is told the true purpose of the study and an attempt is made to undo any emotional changes that occurred as a result of her participation.
 - D) she is informed of both the risks and the benefits of participating in the research.
274. The ethical principle of _____ means that participants must be told the true purpose and nature of an experiment after it is over.
- A) informed consent
 - B) debriefing
 - C) protection from harm
 - D) freedom from coercion

275. Which statement about divulging the true purpose of an experiment is TRUE?
- A) The psychologist need not divulge the true purpose of an experiment.
 - B) The psychologist must divulge the true purpose of the experiment before the subject participates.
 - C) The psychologist must divulge the true purpose of the experiment only after it has been published.
 - D) The psychologist must divulge the true purpose of the experiment after the person participates.
276. How is the psychological code of ethics as it pertains to respecting people enforced?
- A) by the honour system (self-regulation)
 - B) by institutional review boards
 - C) by international inspectors from the United Nations Task Force on Human Rights
 - D) through the tenure and promotion system at universities
277. Which statement about the use of animals in psychological research is FALSE?
- A) Psychologists must make reasonable efforts to minimize distress to animals.
 - B) Psychologists must not expose animals to painful stimuli.
 - C) Surgical procedures should be conducted by qualified personnel, and animals must be under appropriate anesthesia.
 - D) All research involving animals must be supervised by psychologists who are trained in research methods and the care and use of animals in research.
278. Which statement about the use of animals in psychological research is TRUE?
- A) People for the Ethical Treatment of Animals approves of the use of animals in psychological research.
 - B) Most research in psychology involves the use of animals.
 - C) Animals in psychological research may be exposed to painful stimuli if there is no other way to conduct the research and there is a strong justification for the research.
 - D) The Candian Council on Animal Care (CCAC) is against the use of animals in psychological research.
279. Research ethics boards (REBs) ensure that data are ethically:
- A) collected.
 - B) analyzed.
 - C) interpreted.
 - D) published.

280. Which authority is charged with ensuring that the research claims made by scientists respect the truth?
- A) research ethics boards
 - B) provincial and federal legislatures
 - C) ultimately, the Supreme Court
 - D) no one
281. Which researcher who completely lies about conducting a study and makes a fraudulent research claim will probably get caught?
- A) The researcher who claims that the rate of food-reward size affects rats' maze running in orderly ways.
 - B) The researcher who claims that taking frequent study breaks results in greater learning, even among younger children.
 - C) The researcher who reports long-term mood benefits associated with the use of marijuana.
 - D) The researcher who reports that university students are more likely to use prescription stimulants than are their non-university peers.
282. Which researcher who completely lies about conducting a study and makes a fraudulent research claim will probably get caught?
- A) The researcher who claims reinforcement is more effective at changing a particular behaviour than is punishment in a rat model.
 - B) The researcher who claims to have taught American Sign Language to rhesus monkeys.
 - C) The researcher who claims that absenteeism is associated with reports of depression in a sample of university students.
 - D) The researcher who claims that children who are read to frequently do better in elementary school.
283. The psychologist Diederik Stapel published fraudulent research results for decades before his deception was uncovered. When caught, Stapel was:
- A) fired from his academic position and had his publications retracted.
 - B) verbally warned to stop engaging in fraudulent behaviour; no further action was taken due to the lack of an enforcement agency.
 - C) forced to retract those publications in which fraudulent data appeared but allowed to keep his academic position.
 - D) fired and sent to prison for 5 years for his fraudulent activities.

284. Which scenario constitutes fabricating the results of a research study?
- A) purposely making a computational "mistake" in order to yield favourable statistical results
 - B) suppressing the results of a participant in order to produce a favourable research outcome
 - C) rounding data in such a way as to produce a statistically desirable outcome
 - D) generating fake data to go along with a fictitious study never conducted
285. David engages in unethical research practices and changes the result of a statistical test from an otherwise ethically conducted study. David is engaged in:
- A) data fabrication.
 - B) data falsification involving fudging the results.
 - C) suppressing data inconsistent with the study's goals.
 - D) willfully ignoring principles of beneficence and justness.

Answer Key

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

- 45. A
- 46. C
- 47. D
- 48. C
- 49. C
- 50. D
- 51. D
- 52. A
- 53. D
- 54. B
- 55. B
- 56. D
- 57. D
- 58. B
- 59. C
- 60. C
- 61. D
- 62. D
- 63. C
- 64. C
- 65. A
- 66. B
- 67. A
- 68. D
- 69. C
- 70. C
- 71. B
- 72. C
- 73. A
- 74. B
- 75. B
- 76. A
- 77. B
- 78. D
- 79. C
- 80. D
- 81. A
- 82. C
- 83. C
- 84. D
- 85. A
- 86. C
- 87. B
- 88. B
- 89. C
- 90. D

- 91. C
- 92. B
- 93. A
- 94. A
- 95. B
- 96. A
- 97. C
- 98. B
- 99. B
- 100. A
- 101. A
- 102. B
- 103. C
- 104. C
- 105. D
- 106. A
- 107. C
- 108. A
- 109. D
- 110. B
- 111. B
- 112. C
- 113. B
- 114. D
- 115. A
- 116. C
- 117. C
- 118. C
- 119. A
- 120. A
- 121. B
- 122. C
- 123. D
- 124. D
- 125. D
- 126. C
- 127. A
- 128. B
- 129. C
- 130. A
- 131. B
- 132. C
- 133. A
- 134. A
- 135. B
- 136. A

- 137. B
- 138. A
- 139. A
- 140. A
- 141. B
- 142. B
- 143. A
- 144. B
- 145. C
- 146. D
- 147. A
- 148. C
- 149. A
- 150. B
- 151. D
- 152. C
- 153. C
- 154. D
- 155. A
- 156. A
- 157. C
- 158. B
- 159. C
- 160. B
- 161. A
- 162. A
- 163. A
- 164. C
- 165. D
- 166. A
- 167. D
- 168. D
- 169. B
- 170. A
- 171. C
- 172. B
- 173. D
- 174. C
- 175. B
- 176. A
- 177. D
- 178. C
- 179. B
- 180. A
- 181. C
- 182. D

- 183. D
- 184. A
- 185. B
- 186. D
- 187. D
- 188. C
- 189. B
- 190. D
- 191. C
- 192. D
- 193. A
- 194. B
- 195. B
- 196. D
- 197. C
- 198. C
- 199. D
- 200. C
- 201. B
- 202. C
- 203. B
- 204. C
- 205. D
- 206. C
- 207. A
- 208. B
- 209. D
- 210. D
- 211. C
- 212. A
- 213. D
- 214. B
- 215. A
- 216. D
- 217. B
- 218. C
- 219. B
- 220. A
- 221. B
- 222. B
- 223. C
- 224. C
- 225. C
- 226. A
- 227. C
- 228. B

- 229. B
- 230. A
- 231. A
- 232. A
- 233. C
- 234. D
- 235. D
- 236. C
- 237. D
- 238. B
- 239. A
- 240. D
- 241. D
- 242. A
- 243. D
- 244. C
- 245. D
- 246. B
- 247. A
- 248. D
- 249. C
- 250. D
- 251. C
- 252. C
- 253. B
- 254. B
- 255. C
- 256. B
- 257. C
- 258. B
- 259. D
- 260. A
- 261. C
- 262. C
- 263. D
- 264. D
- 265. A
- 266. B
- 267. B
- 268. A
- 269. D
- 270. C
- 271. C
- 272. A
- 273. C
- 274. B

- 275. D
- 276. B
- 277. B
- 278. C
- 279. A
- 280. D
- 281. C
- 282. B
- 283. A
- 284. D
- 285. B