Multiple Choice

1) Participants are asked to memorize three different lists of words. The lists are presented at three different presentation speeds. How would you classify this study?
   a) applied research
   b) field research
   c) basic research
   d) both a. and b.

2) Basic research is concerned with _____ while applied research tries to _____.
   a) experimental realism; accomplish mundane realism
   b) establishing essential principles; solve practical problems
   c) the laboratory only; use field studies only
   d) mundane realism; accomplish experimental realism

3) Which of the following research studies is most obviously an example of basic research?
   a) the effect of delaying reward on maze learning in rats
   b) the effectiveness of hypnosis for improving courtroom eyewitness memory
   c) worker productivity in well-lit vs. poorly-lit environments
   d) whether hands-free cell phones are less disruptive to driving than hand-held phones

4) Applied research
   a) always has mundane realism but seldom has experimental realism
   b) always has experimental realism but seldom has mundane realism
   c) can be either laboratory or field research
   d) is always field research, while basic research is laboratory research

5) The studies by Cherry and by Broadbent, using dichotic listening, are examples of
   a) basic research on attention
   b) applied research on the factors that enhance the focusing of attention
   c) research high in mundane realism but low in experimental realism
   d) basic research on car driving

6) Broadbent's (1958) study on selective attention is to Strayer and Johnston's (2001) study on cell phone use while driving as _____ is to _____.
   a) field research; laboratory research
   b) mundane realism; experimental realism
   c) applied research; basic research
   d) basic research; applied research

7) Compared to field research, what is the advantage of laboratory research?
   a) informed consent is easier
   b) it allows experimental realism to occur
   c) there is a greater degree of mundane realism
   d) only lab research yields data that can be analyzed adequately (statistically)

8) Compared to field research, which of the following is true about laboratory research?
   a) it allows for a greater degree of control over variables
   b) it may be lower in mundane realism
   c) both informed consent and debriefing are easier to manage
   d) all of the above

9) Compared to laboratory research, which of the following is true about field research?
   a) it allows for a greater degree of control over variables
   b) it may be higher in mundane realism
   c) both informed consent and debriefing are easier to manage
   d) it will be higher in experimental realism

10) If a study is high on experimental realism, then
   a) participants will take the procedures seriously
   b) the participant's task will resemble a normal daily activity
   c) it is certain that deception has been used
   d) it is almost certainly a field study rather than a laboratory study

11) Which of the following is true of the studies done by Bushman and Anderson (2009) who evaluated exposure to violence and helping behavior?
   a) it combined both laboratory and field research in a series of experiments
   b) it was a series of experiments high in mundane realism but low in experimental realism
   c) it combined both basic and applied research in a single experiment
   d) it was a series of experiments high in experimental realism but low in mundane realism

12) In the laboratory research study by Bushman and Anderson (2009), participants played either violent or nonviolent video games, then filled out a questionnaire. Which of the following describes what they found?
   a) participants who played violent video games completed the questionnaires faster than participants who played non-violent video games
   b) participants who played violent video games reported less violence in the video games than participants who played non-violent video games
   c) participants who played violent video games
   d) participants who played violent video games were slower to help an individual in an adjacent room compared to participants who played non-violent video games
   e) participants who played violent video games did not help an individual in an adjacent room compared to participants who played non-violent video games

13) After completing their laboratory experiment on exposure to violent video games, why did Bushman and Anderson (2009) complete a field experiment on the exposure to violence and helping behavior?
   a) they wanted to improve experimental realism
   b) they wanted to see if the results of their first experiment would generalize to everyday situations
   c) they wanted to rule out alternative interpretations of their laboratory experiment
   d) they wanted to increase sample size

14) In Bushman and Anderson's (2009) field experiment, who was the experimental confederate?
   a) a young man who was heard fighting with another person
   b) a young woman with and apparent ankle injury and crutches at a movie theater
   c) a young woman with and apparent ankle injury and crutches in the laboratory
   d) the experimenter who administered the questionnaires

15) Qualitative research is to quantitative research as _____ is to _____.
   a) analytic narrative; inferential analysis
   b) applied research; basic research
   c) field research; laboratory research
   d) basic field research; applied field research

16) The study in the text that examined male and female patterns of control over the TV remote is a good example of a study that combines
   a) basic and applied research
   b) field and lab research
   c) qualitative and quantitative research
   d) all of the above

17) Empirical questions must
   a) be answerable with data
   b) include terms that can be operationally defined
   c) both alternatives a. and b.
   d) none of the above

18) A researcher is measuring aggression. Which of the following is most clearly inadequate as an operational definition of the term?
   a) choosing a button which makes it difficult for another subject to complete a task
   b) honking one's horn at an intersection for a period of more than two seconds
   c) attempting to harm someone
   d) delivering electric shocks to a competitor

19) What is the advantage of using operational definitions?
   a) they force researchers in different laboratories to all use the exact same definition
   b) they facilitate replication
   c) it's easy to agree on a universal definition for a concept like aggression
   d) there are no advantages to using operational definitions; no two persons can ever agree on the best definition

20) Operational definitions
   a) are seldom needed because of modern advances in behavioral technology
   b) are needed to force researchers in different laboratories to all use the exact same definition of a construct
   c) force researchers to be clear about defining the terms of their studies
   d) differ from one study to another, which means that using operational definitions hinders the replication process

21) Which of the following is the best example of converging operations?
   a) several studies use different operational definitions of aggression yet produce the same basic results
   b) several studies of anxiety, each with a different operational definition of anxiety, each yields different results
   c) researchers from different laboratories agree ahead of time to use the same operational definitions for intelligence
   d) researchers from different laboratories collaborate on the same research program

22) Two researchers with two completely different operational definitions for aggression nonetheless produce the same result — frustration leads to aggression. This outcome is referred to as
   a) exact replication
   b) operationism
   c) converging operations
   d) serendipity

23) What do the following discoveries have in common: Skinner's extinction curve and Hubel and Wiesel's feature detectors?
   a) both examples of research ideas resulting from everyday observations
   b) both examples of research deduced logically from theory
   c) both examples of a serendipitous finding

d) both examples of failures to replicate

24) Which of the following would be an example of a research project began as the result of a serendipitous event?
a) A suspects B of fraud, so A replicates B's work
b) A notices that complete strangers who take the same subway to work every day begin to greet one another at the station; A wonders why
c) A comes across an interesting study and does a partial replication and an extension of it
d) A has an equipment failure and notices some unusual behavior that leads to a series of studies

25) Which of the following is an example of research began as the result of reflecting on a real news event?
a) Festinger's cognitive dissonance research
b) Darley and Latané's helping behavior research
c) Broadbent's dichotic listening research
d) Bushman and Anderson's violence and helping behavior research

26) Which of the following examples illustrates research that resulted from reflecting on an everyday observation?
a) Skinner's research on extinction
b) Festinger's application of dissonance theory to the decision making
c) Darley and Latané's helping behavior research
d) Pfungst's study of Clever Hans

27) Theories
a) are not highly regarded until proven true
b) lead to hypotheses through the process of induction
c) provide the basis for making predictions that can be tested empirically
d) are ideal if they can explain all possible outcomes

28) All of the following are true of theories <u>except</u>
a) they organize existing data
b) an attribute of a good theory is that it is high on "productivity"
c) provide the basis for making predictions that can be tested empirically
d) they are tentative until the facts prove them true

29) A prediction is made from a theory and the results are just as predicted. What can be concluded about the theory?
a) it has been proven true
b) it has been inductively supported
c) it has been turned into a fact
d) it has been disproven

30) If a number of studies all seem consistent with a theory, then the theory is said to have been supported through
a) induction
b) deduction
c) serendipity
d) parsimony

31) According to the original cognitive dissonance theory, dissonance occurs when people
a) experience electrical shock that is painful
b) simultaneously experience contradictory thoughts
c) are rewarded by others for feeling sad
d) must learn difficult tasks and they sometimes fail

32) Anxiety is not observed directly but is inferred from certain behaviors. That is, anxiety is an example of
   a) a construct
   b) a law
   c) a theory
   d) an operational definition

33) In the original cognitive dissonance theory, it was said that dissonance develops as a result of experiencing contradictory thoughts. This "dissonance" is an example of
   a) a behavior
   b) a hypothesis
   c) an operational definition
   d) a construct

34) Hypotheses are
   a) reasonable predictions about what should occur under specific circumstances
   b) guesses about the causes of events
   c) generated from theory through the process of induction
   d) considered to be "proven true" when supported by more than one experiment

35) Hypotheses are derived from theories through the process of
   a) induction
   b) deduction
   c) falsification
   d) parsimony

36) To reason inductively is to
   a) reason from the specific event to the general principle
   b) reason from the general principle to the specific event
   c) prove the hypothesis true
   d) to disprove the hypothesis

37) To reason deductively is to
   a) reason from the specific event to the general principle
   b) reason from the general principle to the specific event
   c) prove the hypothesis true
   d) to disprove the hypothesis

38) When is a theory discarded?
   a) when a study does not come out as predicted, thereby producing falsification
   b) whenever a better theory is proposed
   c) when empirical results consistently fail to support it
   d) when the theory's originator dies

39) On the basis of cognitive dissonance theory, it was predicted that after making a hard choice, people will convince themselves that they have made a wise choice. Suppose you do a study and discover that exact outcome. What is the proper conclusion?
   a) cognitive dissonance theory has been proven
   b) cognitive dissonance theory has been disproven
   c) cognitive dissonance theory has not been supported
   d) cognitive dissonance theory has been supported

40) Which of the following is true about cognitive dissonance theory?
   a) it failed the criterion of productivity
   b) it generated a lot of research, but it was discarded because better theories came along
   c) it was not stated precisely enough to be tested—thus, it failed the test of falsifiability

d) through the work of Aronson, it evolved into a theory emphasizing threats to the self

41) Which of the following distinguishes a good theory from a bad one?
a) the good theory has been proven true
b) the good theory can explain all possible research outcomes
c) both alternatives a. and b.
d) none of the above

42) The predictions from dissonance theory did not always come out as predicted. What happened to the theory?
a) it was discarded
b) it was concluded that it must be true; most of the research proved it
c) it evolved to incorporate the idea that dissonance occurred most strongly when the self was threatened
d) it was logically disproven but hung on over the years because nothing better came along

43) Theories that can explain all outcomes after the fact
a) do not allow for predictions to be made
b) have been falsified
c) are said to be highly parsimonious
d) illustrate the results of converging operations

44) According to Karl Popper, science proceeds by
a) creating theories and trying to falsify them
b) searching for the ideal (i.e., cannot be falsified) theory
c) accumulating data in the absence of formal theories
d) achieving the proof of a theory after sufficient inductive support has accumulated

45) Some dogs can open gates with their noses. To explain this phenomenon by attributing logic and problem solving abilities to the dog is to
a) give a parsimonious explanation
b) falsify a simpler explanation
c) be guilty of a confirmation bias
d) give an explanation that is not very parsimonious

46) A theory that has the minimum of constructs and assumptions, yet adequately summarizes and organizes information, is said to be a(n) _____ theory.
a) parsimonious
b) operationalized
c) falsified
d) simplistic

47) Which of the following is true about the case of Clever Hans?
a) it was shown to be a case of scientific fraud
b) Pfungst demonstrated that the most parsimonious explanation was that the horse had a higher level of intelligence than other horses
c) Pfungst ruled out intelligence by showing that if the questioner didn't know the answer, thehorse didn't know the answer
d) he only answered correctly when his trainer (von Osten) knew the answer

48) Which of the following is the least accurate description of most research in psychology?
   a) the outcome of one study is usually a question that leads to the next study
   b) research is more likely to be the product of a research team than of an individual investigator working alone
   c) the majority of research ideas come from a logical deduction from an established theory
   d) researchers don't complete projects in topic A, then move to B; they develop programs of research on topic A

49) Upon completion of a study, a research team may discuss predictions about the outcomes from a future revision of the study. This is best known as a form of
   a) creative thinking in science
   b) serendipitous thinking
   c) falsification
   d) "what's next?" thinking

50) In their first experiment on study strategies on memory performance, Roediger and Karpicke (2006) found that a practice test led to better memory one week later than rereading the material one time. Roediger and Karpicke then used _____ in their second experiment to test the role of rereading multiple times as a study strategy compared to practice testing.
   a) creative thinking in science
   b) "what's next?" thinking
   c) falsification
   d) serendipitous thinking

51) Roediger and Karpicke (2006) conducted two experiments on the effects of different study strategies on remembering scientific texts. Their second experiment is considered a _____, because it used similar procedures as the first experiment, but altered other features of the first experiment.
   a) questionable research practice
   b) direct replication
   c) parsimonious theory
   d) conceptual replication

52) A researcher uses some of the same procedures in her method as in a previous study, but she adds a new variable to be tested. What has she done?
   a) engaged in data falsification
   b) did a direct replication of the previous study
   c) did a conceptual replication of previous study
   d) created serendipity in her study

53) Study #1 compares 2- and 4-month old children on a perceptual task. Study #2 uses the same task and compares four groups of children, aged 2, 4, 6, and 8 months. Which of the following is true?
   a) study #2 is an direct replication
   b) study #2 should not have tested the 2- and 4-month olds (already been done)
   c) study #2 is a conceptual replication
   d) study #1 should have tested 6- and 8-month olds

54) Which of the following were found to be Questionable Research Practices (QRP's) by John, Loewenstein, and Prelec (2012)?
   a) Failing to report all dependent measures
   b) Selectively reporting studies that "worked"
   c) Claiming to have predicted an unexpected finding
   d) All of the above

55) According to Pasteur, “chance favors the prepared mind.” Thus, creative breakthroughs in physics are most likely to be made by
   a) random accident (thus they could be made by anyone)
   b) physicists
   c) chemists
   d) any scientist other than a physicist

56) The creation of the maze apparatus
   a) a. required the presence of scientists (Small and Kline) with “prepared” minds (i.e., they knew about rat behavior)
   b) was not creative because it merely copied the human version
   c) is an example of following authority (i.e., lab director Sanford imposed his will)
   d) resulted from a desire to produce a laboratory situation unrelated to the rat’s everyday experience (that way, learning could be studied in its purest form)

57) Answers—Multiple Choice

1) C
2) B
3) A
4) C
5) B
6) C
7) A
8) D
9) B
10) A
11) A
12) C
13) B
14) B
15) A
16) C
17) C
18) C
19) B
20) C
21) A
22) C
23) C
24) D
25) B
26) C
27) C
28) D
29) B
30) A
31) B
32) A
33) D
34) A
35) B
36) A
37) B
38) C
39) D
40) D
41) D
42) C
43) A
44) A
45) D
46) A
47) C
48) C
49) D
50) B
51) D
52) C
53) C
54) D
55) B
56) A

Fill-in the Blanks

1) _____ research contributes to our essential knowledge of psychological processes such as learning, memory, perception, and emotion.

2) An _____ is someone who is working for the experimenter and is "in on" the experiment, but to the participant, appears to be another participant (or perhaps just a bystander).

3) A study that duplicates a situation encountered in everyday living is said to have a high level of _____ realism; such a study may or may not have _____ realism.

4) To say that hunger can be defined as the result of 24 hours without food is to use a(n) _____ definition of the term.

5) A theory can be the starting point for developing a research hypothesis through the logical process of _____.

6) A researcher, before starting a study, proposes that as the number of bystanders increases, the chances that any one of them will help an injured victim decreases. This statement is a good example of a(n) _____.

7) John Watson completed a series of studies in which he attempted to determine which senses were necessary for maze learning to occur. His procedure of eliminating senses one by one is an example of what Popper would call a(n) _____ strategy.

8) Some thought that Clever Hans was highly intelligent, but a more _____ explanation was that he was responding to simple visual cues from the questioner.

9) Sometimes discoveries are made accidentally, as when a procedural error occurs. Such a discovery is said to be the result of _____.

10) If variables are poorly defined and procedures aren't clearly spelled out by a particular investigator, it will be difficult for another researcher to _____ the study.

11) _____ can be thought of as the process of seeing a meaningful connection between two ideas that appear to be unrelated to each other.

Answers—Fill-in the Blanks

1) basic
2) experimental confederate
3) mundane; experimental
4) operational
5) deduction
6) hypothesis
7) falsification
8) parsimonious
9) serendipity
10) replicate
11) creative thinking

Short Essay Questions

1) Distinguish between the major goals of basic and applied research.

2) Distinguish between mundane realism and experimental realism and explain why most researchers believe the latter to be more important than the former.

3) Define manipulation check and pilot study and describe how Bushman and Anderson used each to ensure that their laboratory experiment was methodologically sound.

4) What is the difference between quantitative and qualitative research. Give an example of a typical method used in the latter approach.

5) What is serendipity? Use an example to show how the phenomenon relates to the question of developing research ideas.

6) Describe the roles played by inductive and deductive thinking in the relationship between theory and the results of research.

7) Use Festinger's dissonance theory to explain what is meant by a construct.

8) Using maze learning as an example, describe how scientists can be creative.

9) Many research studies are examples of what is known as conceptual replication. Explain and use an example to illustrate.

10) Describe strategies for reading journal articles.

Comprehensive Essay Questions

1) Describe the purposes of basic and applied research and use the selective attention examples to show why some researchers argue that applied research often relies on a foundation provided by basic research.

2) Use the Bushman and Anderson (2009) experiments (testing the relationship between exposure to violence and helping behavior) as an illustration of the relative advantages and disadvantages of research done in the field and in the laboratory.

3) Describe the main features of a theory, show how research derives from theory and how research outcomes influence theory development, and explain why researchers don't use the word "prove" when discussing theory. Use cognitive dissonance theory as the example.

4) Describe the Clever Hans case and show why it is a good example of falsification thinking and of choosing parsimonious explanations.

5) Describe how Roediger and Karpicke (2006) used "what's next?" thinking in their study of using testing as a study strategy. In your essay, be sure to describe the procedures they used and the results they found.