PSYCH 100B PRACTICE QUESTIONS FOR EXAM 1

Answer the next four questions with respect to the following paragraph.
A researcher asked 100 motorcycle officers from different neighborhoods in a large city how many tickets they wrote in one day and also had them rate their mood at the end of that day on a scale from -3 to +3 where -3 meant a very negative mood, 0 meant a neutral mood, and +3 meant a very positive mood. The researcher found that higher numbers of tickets were associated with worsening moods.

1. The design of the study is
    a. a within-subjects experimental design
    b. a correlational design ***
    c. a between-subjects experimental design
    d. a mood attribution design
    e. none of the above

2. The variable of mood is
    a. the dependent variable
    b. manipulated in a between-subjects manner
    c. measured on a ratio scale
    d. a behavioral measure
    e. the criterion variable ***

3. The researcher can conclude that
    a. there is a positive correlation between workload and mood
    b. increased workload makes officers cranky
    c. there is a negative association between workload and mood ***
    d. it is a bad idea to get stopped by an officer at the end of a long day
    e. nothing due to the presence of a confounding variable

4. The researcher did not control for the varying rates of crime in the neighborhoods to which the officers were assigned. However, crime rate could influence both workload and mood. Thus, crime rate represents
    a. a confounding variable
    b. a threat to the external validity of the experiment
    c. a form of experimenter bias
    d. a third variable ***
    e. the importance of individual differences

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5. Dr. Earl E. Bird believes that people are better off waking up early rather than late. In support of his belief, he has observed that people who wake up early tend to be more productive than people who sleep late. What Dr. Bird has observed is
    a. an experimental result
    b. a correlation***
    c. a self report
    d. the effects of an extraneous variable
    e. a directionality problem

Answer the next four questions with respect to the following paragraph.
After randomly assigning students to study for 4 hours either in groups or individually, a researcher gave the subjects a 50-item test on the material they had studied. The researcher found no significant differences between the scores of subjects.

6. The independent variable in this study is
    a. confounded with the time of day
    b. study group size***
    c. manipulated in a within-subjects manner
    d. measured on a ratio scale
    e. the number of items on the test

7. The researcher can conclude
    a. that it is better to study in groups because you can help each other.
    b. that people tend to study with students like themselves.
    c. that he did not have enough questions on the test
    d. that the students did not really try to learn the material.
    e. none of the above***

8. The dependent variable is
    a. measured on an interval scale
    b. demonstrating a ceiling effect
    c. manipulated in a between-subjects manner
    d. measured on a ratio scale***
    e. confounded with the amount of study time

9. The amount of time that students study
    a. is an extraneous variable that was counterbalanced.
    b. is confounded with the independent variable.
    c. is an extraneous variable that was controlled***
    d. poses a threat to the internal validity of the study
    e. poses a threat to the construct validity of the dependent variable

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10. Experimenter bias can be reduced by
    a. making the experimenters "blind" to which subjects are receiving which treatments.
    b. by not allowing the subject to know what hypothesis is being tested in the experiment.
    c. by standardizing the experiment as much as possible (e.g., using tape-recorded instructions)
    d. a, b, and c above
    e. a and c above***

Answer the next two questions with respect to the following paragraph.
The director of a health-food company wants to know whether a new dietary supplement being developed will decrease people's stress levels. To assess this possibility, the director provides the supplement to 50 male and 50 female health-food customers free of charge and asks them to take the supplement for a three-week period. At the end of the three weeks, these same customers are asked how stressed they feel.

11. The measure of the dependent variable is
    a. different for the males and females
    b. behavioral
    c. self-report***
    d. physiological
    e. confounded with initial stress levels

12. On the basis of this study, the director will be able to conclude that the supplement decreases people's levels of stress if
    a. the participants report having decreased levels of stress
    b. a significant number of the participants report having decreased levels of stress
    c. a significant number of both the male and female participants report having decreased levels of stress
    d. either b or c above would be sufficient
    e. none of the above; that is, none of the above outcomes would justify coming to this conclusion. ***

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13. Two researchers are observing the frequency of selfish behaviors of a child in a day care center. Both observers watch the same child during the same hour. When they later compare their written notes, they find that their results are drastically different. This discovery is usually described as a problem with
    a. face validity
    b. self esteem
    c. reliability ***
    d. internal validity
    e. none of the above

Answer the next two questions with respect to the following paragraph.
A UCLA professor examined the relationship between students' exam scores and their propensity to fall asleep in class. The professor asked the TAs for the class to identify each student and record the amount of time that student spent dozing off during lecture. This information was gathered for a total of three lecture meetings prior to the midterm examination. The professor found that the amount of time students slept during lecture was negatively related to their midterm exam scores.

14. The type of research design used in this study was
    - **a. correlational *****
    - b. attributional
    - c. experimental
    - d. pseudoexperimental
    - e. none of the above

15. The finding obtained in the professor's study suggests that
    - a. Dozing off helps students organize information and do better in their exams.
    - b. Paying attention in class does not enhance students' ability to learn.
    - c. Amount of time spent sleeping may have been confounded with the students' interest in the topic for each lecture.
    - d. Lack of proper rest, not interest in the topics discussed in lecture, must be causing students to fall asleep during lectures.
    - **e. Students who slept the most during class had the lowest exam scores. *****

Answer the next two questions with respect to the following paragraph.
A researcher, Dr. Turbo, believed that people's ability to perform perceptual-motor tasks would be better in the afternoon than in the morning. As a way to measure perceptual-motor performance, Dr. Turbo selected two video games ("Alien Invasion" and "Tank Attack"), each of which required fast responding to moving targets in order to score well. To conduct his study, Dr. Turbo first had each of 20 participants play "Alien Invasion" in the morning and then he had the same 20 participants play "Tank Attack" in the afternoon. Upon finding that participants' scores were significantly better in the afternoon than in the morning, Dr. Turbo concluded that his hypothesis had been confirmed.

16. The design used in this study is
    - a. correlational, where performance in the morning is the predictor variable and performance in the afternoon is the criterion variable
    - b. experimental, where scores on the two video games represent levels of the independent variable
    - c. correlational, where performance on "Alien Invasion" is the predictor variable and performance on "Tank Attack" is the criterion variable.
    - **d. experimental, where time of day is the independent variable*****
    - e. either a or c above is correct

17. A possible problem with Dr. Turbo's conclusion is that
    a. practice was confounded with time of day.
    b. type of video game varied systematically with levels of the independent variable.
    c. Dr. Turbo used a between-subjects design when he should have used a within-subjects design.
    d. all of the above are problems with Dr. Turbo's conclusions.
    e. (a) and (b) are problems, but not (c). ***

Answer the next six questions with respect to the following paragraph.

Dr. Smirnoff investigated the relationship between alcohol intake and reaction time in a driving simulation. One group of participants was given one ounce of alcohol to drink; another group was given three ounces of alcohol to drink; and a third group was given five ounces of alcohol to drink. Then, after the same amount of time had elapsed since consuming the alcohol, participants in each group were placed in a simulated driving situation. At a random point for each participant in each group, a red light suddenly appeared, and the time it took each participant to step on the brake pedal after presentation of the red light was measured.

Use the following terms to answer the next three questions about this study.

a. timing of the red light
b. speed of stepping on the brake
c. time since alcohol consumption
d. amount of alcohol consumed
e. degree of intoxication

18. The independent variable used in this study was (**D**).

19. The dependent variable used in this study was (**B**).

20. An extraneous variable held constant in this study was (**C**).

21. The independent variable used a _____ scale; the dependent variable used a _____ scale.
    a. nominal; ratio
    b. ratio; ratio ***
    c. interval; ratio
    d. interval; interval
    e. ordinal; ratio

22. The appropriate statistical test to analyze the data from this study would be
    a. an independent-samples or between-subjects t test
    b. a dependent-samples or within-subjects t test
    c. a one-way ANOVA followed by appropriate posttest comparisons***
    d. a correlational measure
    e. a within-subjects ANOVA followed by appropriate posttest comparisons

23. Unless proper control procedures had been used in this study, a possible problem could arise from
    a. nonequivalent groups
    b. adaptation or drug tolerance effects
    c. differential driving skills among the participants
    d. all of the above ***
    e. b and c above only

Answer the next two questions with respect to the following paragraph.
An experimenter was interested in the effects of music on recall ability. Each participant was given two lists of words to memorize. All of the participants studied List 1 while heavy metal music was playing and List 2 while classical music was playing. Half of the participants studied List 1 first, followed by List 2, and the other half of the participants studied List 2 first, followed by List 1. Two hours later, the participants were asked to recall as many words as they could remember from either of the two lists. The experimenter found that participants recalled significantly more words from List 2.

24. The dependent variable in this study was _____ and it was measured on a _____ scale.
    a. List 1 and List 2; nominal
    b. recall ability; ratio ***
    c. type of music; nominal
    d. type of music; ordinal
    e. List 1 and List 2; ratio

25. Which of the following is true with respect to this study?
    a. There is a confounding variable present in the study.
    b. The study employed a within-subjects design.
    c. The study employed a between-subjects design.
    d. Both a and b above are true about this study. ***
    e. Both a and c above are true about this study.

The following three questions are related.
Professor Lee believes that eating eggs in the morning causes people to be happier throughout the day. To test this hypothesis, Professor Lee asks 100 of her students to participate in her study. She assigns everyone in her morning class to eat 2 eggs every morning for one week. She assigns everyone in her afternoon class to eat cereal every morning for one week. At the end of the week, she asks them to rate their happiness on a scale from 0 to 10 (0 = not happy at all, 10 = extremely happy). Professor Lee finds that students who eat eggs in the morning rated themselves significantly happier than those who did not eat eggs in the morning. She concludes that eating eggs in the morning causes people to be happy.

26. Which of the following is (are) true about this study?
    a. the independent variable is Dr. Lee's morning and afternoon classes
    b. time of class is confounded with the independent variable
    c. type of food consumption is the independent variable
    d. both (a) and (b)
    e. both (b) and (c)***

27. Professor Lee's conclusion is
    a. warranted because she randomly assigned the subjects to conditions
    b. warranted because she used a self report measure
    c. not warranted because her study lacks internal validity***
    d. warranted because her independent variable had at least two levels
    e. not warranted because she used a correlational design, not an experimental design

28. The dependent variable in this study is
    a. measured on a ratio scale
    b. measured on an interval scale
    c. a self-report rating of happiness
    d. both (b) and (c)***
    e. both (a) and (c)

<u>The following two questions are related.</u>
Dr. Green believes that peoples' stress levels and the time it takes them to file their taxes are related. More specifically, he thinks that the longer someone spends on their tax filing, the higher their stress levels will be. On April 15th, Dr. Green asks each of 200 randomly selected adults who had filed taxes that day, how many hours they spent on their taxes and then also asks each of them how stressed they feel on the following scale: 1 (not at all) to 7 (very stressed). He found that the more time people reported spending on their taxes, the more stressed they also reported feeling. Dr. Green concluded that spending a lot of time on taxes causes people to feel stressed.

29. The following is (are) **not true** with respect to this study:
    a. the independent variable is the reported length of time spent on taxes
    b. the predictor variable is the stress level reported by subjects
    c. filing taxes caused some of the subjects to be more stressed
    d. because all the adults in the sample had filed taxes, it was a biased sample
    e. **none of the above are true about this study*****

30. Dr. Green's conclusions are
    a. justified because he asked a random sample of adults
    b. justified because tax filing is stressful for many people
    c. not justified because causality cannot be inferred***
    d. justified because proper controls were taken
    e. not justified because the relationship found was positive, not negative

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The following five questions are related.

Professor Bjork believes that her students learn things just by being close to her. When questioned about this belief, she explains that, over several years of teaching, she has noticed that the students who sit closer to her when she lectures do better on exams than the students who sit farther away.

Bill and Ted decide to test Professor Bjork's belief—that is, that sitting closer to Professor Bjork causes students to perform better on their exams. Gaining permission to do so, they randomly assign half of Professor Bjork's students to sit in the front of the class, and the other half to sit in the back of the class, for the entire term. At the end of the term, all students are given the same final exam containing 100 multiple-choice questions, and each student's exam score is calculated by counting the number of questions that he or she answered correctly. Bill and Ted then compare the exam scores of the students who sat in the front of the class to those of the students who sat in the back of the class. After analyzing the results, they find no significant differences in the exam scores between the students who sat in the front versus those who sat in the back. They conclude that Professor Bjork was mistaken in her belief that sitting close to her during lectures improves one's exam performance.

31. To test Professor Bjork's belief or hypothesis, Bill and Ted have conducted
    a. a correlational study in which sitting position was the predictor variable and exam score
       was the criterion variable.
    b. a correlational study in which sitting position was the independent variable and exam score was the dependent variable.
    c. an experiment in which sitting position was the independent variable and exam score was the dependent variable.***
    d. an experiment in which sitting position was the predictor variable and exam score was the criterion variable.
    e. none of the above describe the type of research Bill and Ted conducted.

32. In Bill and Ted's study, the exam score variable represents a _____ type of measure, and it was measured on a _____ scale.
    a. physiological; interval
    b. behavioral; interval
    c. physiological; ratio
    d. behavioral; ratio ***
    e. performance; interval

33. What type of statistical analysis would Bill and Ted have performed on the data they collected?
    a. one-way within-subjects ANOVA
    b. one-way between-subjects ANOVA
    c. independent samples t-test***
    d. dependent samples t-test
    e. an analysis appropriate for correlational data

34. A critic of Bill and Ted's study claims that individual differences in intelligence might make the interpretation of the results of their study difficult. In this study, intelligence definitely is:
    a. a confounding variable
    b. a predictor variable
    c. an independent variable
    d. a criterion variable
    e. none of the above***

35. Based on the type of study conducted by Bill and Ted, is there merit to the critic's point?
    a. no: intelligence is irrelevant to exam performance
    b. yes: intelligence needs to be held constant in this type of study
    c. no: differences in intelligence are controlled by random assignment ***
    d. yes: intelligence, and not seating position, is what influences exam performance
    e. no: seating position does not have an effect on a person's intelligence

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The next three questions are related.

An advertising executive is interested in knowing which of two television commercials will be more effective in convincing people to buy a new brand of bubble-gum. One commercial is full of information about the new gum; the other lacks any real information about the gum, but shows celebrities chewing the gum and blowing bubbles with it. To see which commercial is more effective, the advertising executive decides to show both commercials to a sample of subjects, and then, after everyone in the sample has seen both commercials, to test how well the subjects remember what happened in the commercials.

36. To be confident about any conclusions drawn from this study, the advertising executive should:
    a. make sure that there are the same number of men and women in her sample
    b. control for how much television the subjects have watched before participating in the study
    c. make sure that the commercials are shown in different orders to different subjects***
    d. create a control condition in which subjects do not see any commercials
    e. make sure that the celebrities in the second commercial are admired by the subjects

The advertising executive conducts the study and obtains the following results:

Condition	Mean Number of Details Remembered
Information	6.72 details
Celebrities	3.16 details

37. What analysis should she use to determine whether the difference between conditions is a significant difference?
    a. one-way within-subjects analysis of variance
    b. one-way between-subjects analysis of variance
    c. independent-samples t test
    d. paired-samples t test***
    e. an analysis appropriate to test for a significant correlation

38. After hearing about the study, the president of the bubble-gum company complains that people's memory for the details of television commercials may not indicate how likely those people will be to buy the gum that was advertised. The president is questioning
    a. the internal validity of the study
    b. the reliability of the dependent variable
    c. the construct validity of the dependent variable***
    d. the accuracy of the dependent variable
    e. the face validity of the independent variable

The next two questions are related.

Mr. Robbins was interested in whether the color of the cup in which ice cream was served would affect people's liking for the ice cream. To address this question, Mr. Robbins had one group of participants eat one scoop of ice cream served in a red cup; another group of participants ate the same amount and flavor of ice cream in a blue cup; and a third group ate the same amount and flavor of ice cream in a yellow cup. After eating all of the ice cream in the cup, participants indicated how much they liked the ice cream by rating the taste on a 1-5 scale.

39. In this study, the independent variable was the _____; the dependent variable was the _____; and an extraneous variable held constant was the _____.
    a. ice cream ratings; color of the serving cup; flavor of the ice cream
    b. color of the serving cup; ice cream ratings; gender of the participants
    c. flavor of the ice cream; ratings of the ice cream; amount of ice cream served
    d. color of the serving cup; amount of ice cream consumed; flavor of the ice cream
    e. color of the serving cup; ice cream ratings; amount of ice cream consumed***

40. Unless proper control procedures had been used in Mr. Robbins study, a possible problem could arise from
    a. nonequivalent groups
    b. different degrees of liking for ice cream among the participants
    c. the order in which ice cream from the different types of cups is eaten and rated
    d. all of the above
    e. a and b above only***

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41. A track coach is trying to decide whether to buy Nike or Reebok track shoes for his sprinters. He decided to perform an experiment to see which shoe will produce the faster running times. He can properly test this question using a <u>within-subjects</u> design by
    a. randomly assigning half the sprinters to run with Nike shoes and half to run with Reeboks.
    b. having all sprinters first run with Nikes and then run with Reeboks.
    c. by randomly pairing all sprinters and having each pair race while one member wears Nikes and the other wears Reeboks.
    d. having a random half of the sprinters first run with Nikes and then run with Reeboks, while the other half first run with Reeboks and then run with Nikes.**
    e. allowing each sprinter to select either Reebok or Nike and then after running in that type of shoe, rate how well he liked it on a 7-point scale.

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42. Dr. Young, a developmental psychologist, studied dependency by measuring how many times children in school asked an adult for help. Another developmental psychologist, Dr. Kidd, argued that asking for help was not a good measure of dependency. In fact, Dr. Kidd argued that asking for help shows resourcefulness and initiative. Dr. Kidd is disputing the _____ of Dr. Young's measure of dependency.
    a. reliability
    b. convergent validity
    c. internal validity
    d. external validity
    e. construct validity***

The next four questions are related to the following paragraph.

Dr. Liu was interested in studying the effects of frustration in college-aged individuals. To do so, he made arrangements with a math professor, Dr. Pascal, to perform a study using the 50 students in his calculus class as participants. For his materials, Dr. Liu created two sets of math problems: Set A, which contained 10 challenging but solvable math problems, and Set B, which was identical to Set A except that a randomly chosen 7 of the problems were changed just enough to make them impossible to solve. Then, on the day of the study, Dr. Liu handed out the Set A problems to the 25 students sitting in the front half of Dr. Pascal's class and the Set B problems to the 25 students sitting in the back half of Dr. Pascal's class. All students were then told that they would have 30 minutes to work on the problems and that there would be a cash prize of $75 for the student who solved the most problems. After this 30-minute interval, Dr. Liu collected the problem sets and Dr. Pascal held a question-answer review session for an upcoming exam for the rest of the class period. Dr. Liu remained in the classroom during this review and, for each question asked, he recorded whether the student asking it was sitting in the front half or the back half of the classroom and rated the tone or manner in which the question was asked on a scale from 1 to 7, with 1 standing for "polite and friendly manner" and 7 standing for "hostile and belligerent manner."

43. The best way to describe the hypothesis being tested in Dr. Liu's study would be that
    a. math students are more hostile than other types of students
    b. students who sit in the back of the classroom tend to be more hostile than those who sit
    in the front of the classroom
    c. making people feel frustrated will cause them to behave aggressively ***
    d. making people compete for a desirable prize will cause them to behave aggressively
    e. aggressiveness is an innate trait that cannot be manipulated

44. By giving some students a set of problems containing only possible-to-solve problems and other students a set of mostly impossible-to-solve problems, Dr. Liu has
    a. operationally defined his independent variable***
    b. operationally defined his dependent variable
    c. controlled for individual differences in math ability among the students
    d. controlled for order effects
    e. both a and c above

45. In Dr. Liu's study, the measures of his dependent variable would lie on a(an) _____ scale.
    a. ratio scale
    b. interval scale***
    c. nominal scale
    d. ordinal scale
    e. hostility scale

46. Suppose Dr. Liu uses an independent-samples *t* test to analyze the data collected in his study and finds that the mean rating of the questions asked by the students who were given the Set A problems ($M = 2.3$) was significantly different from the mean rating of the questions asked by the students who were given the Set B problems ($M = 6.2$). Would Dr. Liu then be justified in concluding that the frustration he created in students by making them work on impossible-to-solve problems caused them to ask questions in an aggressive manner?
    a. yes, because he has used valid operational definitions of his independent and dependent variables
    b. yes, because the outcome of his statistical analysis revealed a significant difference
    c. no, because there is a confounding variable present in his study***
    d. no, because he has not used the correct test to analyze his data
    e. no, because of both c and d above

<u>The next 3 questions are related.</u>

A developmental psychologist, Dr. Lucero, has been asked by the CEO of a large toy company to help determine which of four toys (A, B, C, & D) that the company is considering bringing on the market would be the most likely for parents of children in the targeted age group (5-8 year olds) to purchase for their children. Dr. Lucero considers three ways that she might be able to answer the CEO's question: (a) expose the children to pictures of the four toys and ask them to rank order the toys from the one they would most like to play with to the one that they would least like to play with; (b) expose the children to pictures of the four toys and, for each toy, ask them to judge how much they would like to play with that toy by assigning a number from 1 to 5 to it, where 1 = Not very much and 5 = Very much; and (c) exposing the children to examples of the four toys and measuring how much time they play with each of them.

47. These three possible ways of collecting her data—that is, (a), (b), and (c) above, respectively—would produce data or measures that would fall on which types of scales, respectively.
    a. interval; ordinal; ratio
    b. ordinal; interval; ratio***
    c. ordinal; interval; interval
    d. nominal; ordinal; ratio
    e. not enough information is provided to answer this question

48. If Dr. Lucero elects to do (b), she will be using a _____ type of dependent measure, and if she does (c), she will be using a _____ type of measure.
    a. behavioral; self-report
    b. self-report; operational
    c. indirect; direct
    d. intuitive; empirical
    e. self-report; behavioral***

49. Suppose Dr. Lucero finds that children play significantly longer with Toy A—a robot that can be taken apart to form various types of futuristic looking weapons—versus any of the other three toys (B, C, D), which are a type of puzzle, a video game that requires counting, and a word-matching card game. She thus recommends to the CEO that the company market Toy A. After hearing the details of Dr. Lucero's study, however, the CEO complains that how long children played with each toy might not indicate how likely their parents would be to buy that toy. The CEO is questioning
    a. the internal validity of the study
    b. the reliability of the dependent measure
    c. the construct validity of the dependent measure***
    d. the accuracy of the dependent measure
    e. the face validity of the independent variable

The next five questions are related.

Dr. HipHop is curious to know if practicing a dance alone or in pairs yields better performance. She randomly assigned her dance students to practice one of two dances (either Dance A or Dance B) for 2 hours. For each dance, the freshmen were assigned to practice in pairs while the seniors were assigned to practice individually. She then had 10 judges rate each dancer on a scale of 1 – 9 during a performance later that week.

50. The independent variable in this study
    a. has two levels: Dancing in pairs and dancing alone***
    b. has two levels: freshmen and seniors
    c. is manipulated in a within-subjects manner
    d. all of the above
    e. a and c above only

51. The appropriate way to analyze the data from this study would be to use
    a. a dependent-samples *t* test.
    b. an independent-samples *t* test.***
    c. a test of correlation, such as Pearson's correlation coefficient
    d. a one-way ANOVA.
    e. none of the above; that is, none of the above is the appropriate statistical test to use on the type of data collected in this study

52. Suppose Dr. HipHopoanalysed her data correctly and found no significant difference between the scores of students that danced alone (M=6.6) and the students that danced in pairs (M=6.8). Based on this result, Dr. HipHop can conclude
    a. that it is better to dance in pairs, probably because you can help each other
    b. that it is better to dance in pairs, probably because people tend to try harder
    c. that practicing alone or in pairs does not cause a difference in performance
    d. either (a) and (b) above
    e. none of the above due to the presence of a confounding variable***

53. The dependent measure used by Dr. HipHop
    a. produced scores that lie on an interval scale***
    b. appears to have a problem with ceiling effects
    c. was manipulated in a between-subjects manner
    d. was type of dance
    e. was confounded with the amount of practice time

54. The amount of time that students practiced
    a. is an extraneous variable that was counterbalanced
    b. is confounded with the independent variable
    c. is an extraneous variable that was held constant***
    d. poses a threat to the internal validity of the study
    e. poses a threat to the external validity of the study

The next two questions are related to the following paragraph.

Dr. Green was interested in the effects of different types of pollution on people's ability to perform high-level cognitive tasks and whether some types of pollution might have a deleterious effect while others might not. To test this issue, he had a randomly selected group of UCLA students first perform a problem-solving task under conditions of no pollution, then under conditions of noise pollution, and then under conditions of air pollution.

55. Dr. Green is examining the effects of a _____ type of independent variable, with ____ levels.
    a. qualitative; two
    b. quantitative; two
    c. noxious; three
    d. quantitative; three
    e. qualitative; three***

56. Suppose Dr. Green finds that, compared to the no-pollution condition ($M = 75$), the performance of subjects in the noise pollution condition ($M = 65$) was significantly worse, whereas the performance of subjects in the air pollution condition ($M = 71$) was not. Dr. Green would then be justified in concluding that
    a. whereas noise pollution decreases one's ability to perform high-level cognitive tasks, air pollution does not, at least as measured by the problem-solving task used in this study
    b. students living in Los Angeles have probably developed an immunity to the effects of air pollution
    c. whereas air pollution decreases one's ability to perform high-level cognitive tasks, noise pollution does not, at least as measured by the problem-solving task used in this study
    d. a and b above
    e. none of the above due to the presence of a confounding variable***

The next two questions are related to the following paragraph.

Dr. Liu wants to test the hypothesis that listening to classical music will improve quantitative skills. To test this hypothesis, he assigns subjects to an experimental or a control condition by flipping a fair coin, where heads = assignment to the experimental condition and tails = assignment to the control condition. In the experimental condition, subjects sit in a small room and listen to Mozart for 10 minutes before taking an arithmetic test, while subjects in the control condition simply sit in a small, quiet room for 10 minutes before taking the same arithmetic test. Dr. Liu makes certain that nothing is different about the two rooms other than the presence or absence of the Mozart music. After conducting his study, he calculates the percentage of arithmetic problems correctly solved by each subject.

57. In his study, Dr. Liu has used a _____ procedure and a _____ measure of his dependent variable, and he should use _____ to analyze the data collected.
    a. simple random assignment; behavioral; an independent-samples *t* test***
    b. simple random assignment; computational; dependent-samples *t* test
    c. matched random assignment; behavioral; independent-samples *t* test
    d. balanced Latin square; behavioral; dependent-samples *t* test
    e. none of the above

58. After conducting this study, Dr. Liu finds that each subject completes nearly all of the arithmetic problems successfully and that the mean performance of the experimental subjects (M = 99%) and that of the control subjects (M = 98%) were not significant different. Which of the following could be the reason why Dr. Liu did not obtain a significant difference between the two groups.
    a. He has a problem of ceiling effects***
    b. He used a simple random assignment procedure, whereas he should have used a matched random assignment procedure
    c. Rather than using a between-subjects design, he should have used a within-subjects design.
    d. He did not use extreme enough levels of his independent variable.
    e. He did not make certain that the subjects in the two groups had more or less equal quantitative skills.

Answer the next six questions with respect to the following paragraph.

Dr. Kipling is interested in whether people read different types of material at different rates. To investigate this question, Dr. Kipling decides that he will ask participants to read a fable, a humorous essay, and a newspaper story, each of which was written by the same author. And, for each type of material, he will record the length of time participants take to read the first 1000 words.

59. In his study, Dr. Kipling will be manipulating a _____ independent variable with _____ levels.
    a. **qualitative; three*****
    b. quantitative; three
    c. qualitative; one
    d. quantitative; one
    e. continuous; three

60. The dependent variable in his study will be _____ and be measured on a _____ scale.
    a. the type of story read by each participant; interval
    b. the type of story read by each participant; nominal
    c. the length of time to read the first 1000 words of the presented material; ratio**
    d. the length of time to read the first 1000 words of the presented material; ordinal
    e. none of the above is the correct answer

61. If Dr. Kipling elects to have each participant read all three types of materials, he will be employing a _____ and will need to control for _____ .
    a. between-subjects design; individual differences among participants
    b. within-subjects design; individual differences among participants
    c. between-subjects design; presentation order of the three types of material
    d. within-subjects design; presentation order of the three types of material***
    e. between-subjects; measurement bias

62. If Dr. Kipling elects to have different participants read each of the three types of materials, he will be employing a _____ and will need _____ subjects in his study
    a. between-subjects design; fewer
    b. within-subjects design; fewer
    c. between-subjects design; more***
    d. within-subjects design; more
    e. within-subjects; the same number of

63. Suppose Dr. Kipling decides to conduct his study as a between-subjects design, and he randomly assigns a sufficiently large number of participants to each condition. By using random assignment, Dr. Kipling will have
    a. created equivalent groups
    b. controlled for differences in individual reading speeds among participants
    c. controlled for experimenter bias
    d. all of the above
    e. a and b above***

64. Suppose Dr. Kipling finds a significant effect of his independent variable (that is, after conducting the appropriate ANOVA, he obtains a significant F-ratio for his independent variable). He will then be able to conclude that
    a. reading rates are faster for newspaper stories than for humorous essays or fables, at least as measured in his study
    b. reading rates differ among the three types of materials used, at least as measured in his study***
    c. reading rates do not differ among the three types of materials used, at least as measured in his study
    d. none of the above because of the presence of a confounding variable in his study

Different levels of measurement were discussed in lecture. Match the four statements below with the level of measurement that it illustrates from the following choices. (Use a given choice only once.)

a. nominal
b. ordinal
c. interval
d. ratio

65. A researcher records the number of times a laboratory rat presses a bar in its experimental chamber during a one-hour period. **D**

66. Before conducting her study, Dr. Barnes measured the temperature of her testing room to the nearest degree over a five-day period and found it to average 68 degrees Fahrenheit. **C**

67. Following a week of careful observation, the team of psychiatrists classified each patient as either "neurotic" or "psychotic." **A**

68. On the form administered by the academic coundalor, the high school senior was asked to list his first, second, and third choice of colleges to attend. **B**

Answer the next three questions with respect to the following paragraph

Professor Wyn was interested in the effect watching football had on students' academic performance. She randomly chose one of the Psych 10 classes she was teaching and asked the students to go to all of the Bruin football games. She assigned the other Psych 10 class she was teaching to attend NO Bruin football games. At the end of the quarter, all of the students took the same 50-question test. She found that the students who had gone to every football game answered fewer questions correctly (M=25) than students who did not attend the games (M=35). She concluded that going to football games causes students to do poorly on exams.

69. The independent variable in this study is

a. students' performance on the exam
b. students' attendance at football games***
c. the number of questions on the test
d. both (a) and (c)
e. both (b) and (c)

70. The dependent variable is

a. measured on a ratio scale***
b. measured on a nominal scale
c. made up of two levels (all games and no games)
d. both (b) and (c)
e. none of the above

71. The problem with the professor's conclusion is that the study
    a. lacks internal validity***
    b. is correlational and *cause* cannot be inferred
    c. suffers from carryover effects
    d. there is no problem because she used random assignment
    e. both (a) and (c) are true

Answer the next three questions with respect to the following paragraph

Joan thinks that radio ads spoken in a female voice are remembered better than ads in a male voice. She tests her hypothesis by creating two ads, one for Tylenol and one for Coke. She uses an actress to record the ad for Tylenol and an actor to record the ad for Coke. Joan tells her subjects that her study is about reading, and she has them proofread a story about whales for spelling errors. As subjects read, Joan has a radio playing in the background. Both ads are played during the time subjects are checking the story. When subjects finish correcting the spelling errors, Joan asks them which products were advertised on the radio.

72. The proofreading task is
    a. the independent variable
    b. the dependent variable
    c. a confounding extraneous variable
    d. a between-subjects variable
    e. an extraneous variable***

73. The product being advertised is
    a. confounded with the gender of the person heard in the ad***
    b. a randomly assigned extraneous variable
    c. counterbalanced across conditions
    d. confounded with the proofreading task
    e. held constant

74. The independent variable has ____ levels and is _____ - subjects
    a. two ; between
    b. four ; between
    c. two ; within***
    d. four ; between
    e. there is not enough information given to answer this question

---

75. The safety of red dye #2 was tested on parrots. Five groups of parrots received differing amounts of the dye in their diets. One group ate no red dye in their diet while the other four groups had 1%, 2%, 3%, and 4% of their diets respectively infused with the dye. After six months on the red dye diet, a sample of blood was drawn from each parrot and the white blood cells were counted. Suppose the results show no statistically significant difference between groups. Which of the following is true:

a. we can confidently conclude that red dye #2 is safe for parrots
b. the researchers had too many levels of the independent variable
c. the null hypothesis has been proven correct
d. the range of the dependent variable may be too narrow to show differences
e. the range of the independent variable may be too narrow to show differences ***

Answer the next two questions with respect to the following choices

I. the more optimistic a person is, the better able they are to respond to stress
II. the greater the number of traffic tickets a person has, the more likely they are to be involved in a traffic accident
III. as unemployment levels drop, the suicide rate also drops
IV. the higher a student's GPA, the less money they are required to pay for car insurance
V. babies born to women who smoke fewer cigarettes tend to be larger in birth weight

76. Examples of a negative correlation between two variables are
a. only (III)
b. (III), (IV), and (V)
c. (IV) and (V)***
d. (I) and (II)
e. (I), (II), and (III)

77. Examples of a positive correlation between two variables are
a. only (II)
b. (II) and (IV)
c. (I), (II), and (III) ***
d. (IV) and (V)
e. (I) and (II)

Answer the next 4 questions with respect to the following paragraph

Paul, George, Ringo, and John are college roommates. Each has their own large CD collection and they have decided that the time has come to get organized. They each decide to organize their CD's differently. Paul organizes his CD's into two boxes: one for CD's that he doesn't listen to anymore and one for CD's that he does listen to. Ringo organizes his CD's into a list, with #1 on the list being his favorite CD, #2 his second-favorite CD, and so on, down to his least favorite CD. John rates each of his CD's on a scale from 0 (does not like the CD at all) to 7 (likes the CD a lot). Finally, George puts his CD's in 8 piles, depending on how many times a week he listens to them (one pile for those he never listens to, and separate piles for CD's he listens to once, twice, three, four, five, six, and seven times a week).

78. Paul has organized his CD's using a
a. ratio scale
b. nominal scale***
c. interval scale
d. ordinal scale
e. not enough information is given to determine the scale of measurement

79. George has organized his CD's using a
    a. ratio scale***
    b. nominal scale
    c. interval scale
    d. ordinal scale
    e. not enough information is given to determine the scale of measurement
80. Ringo has organized his CD's using a
    a. ratio scale
    b. nominal scale
    c. interval scale
    d. ordinal scale***
    e. not enough information is given to determine the scale of measurement

81. John has organized his CD's using a
    a. ratio scale
    b. nominal scale
    c. interval scale ***
    d. ordinal scale
    e. not enough information is given to determine the scale of measurement

---

The next three questions are related to the following paragraph.

A new educational company, Bookworm, wants to determine which of three study methods is the most effective for improving reading comprehension. The company plans to obtain subjects through a newspaper advertisement and then to assign equal numbers of subjects to one of three study methods: traditional, critical-analysis, and individual. Each subject will be seated in a small, quiet room and given the same five-page essay to read. Subjects assigned to the traditional condition will be given a fill-in-the-blank exercise that asks them to find specific phrases or details in the essay. Subjects in the critical-analysis condition will be asked to list the main points of the essay and try to come up with evidence or experiences from their own lives to support each point. Subjects in the individual condition will be asked to study the essay in whatever way they choose. All subjects will know that they will later be given a test based on the essay. After 30 minutes, each subject's overall understanding of the essay will be measured by the number of questions he or she can answer correctly on a standardized 40-item test.

82. Before running this study as described above, the company should
    a. operationally define the independent variable
    b. control for specific item effects
    c. operationally define the dependent variable
    d. control for order effects
    e. none of the above; that is, none of the above is a problem with the study as described***

Assume either that there were no problems with the Bookworm study as described above, or that after fixing any problems with the design of their study, the Bookworm Company conducts their study and obtains the following results.

Condition	Mean Number of Questions Correctly Answered
Traditional	26 items
Critical-analysis	33 items
Individual	22 items

83. The appropriate statistical test to use for the initial analysis of their data is
    a. a dependent-samples *t* test.
    b. an independent-samples *t* test.
    c. a three-way ANOVA.
    d. a test of correlation, such as Pearson's correlation coefficient
    e. a one-way ANOVA.***

84. After the appropriate statistical analysis is performed, suppose that a significant effect of study method is obtained. What would the company be able to conclude?
    a. Subjects using the critical-analysis method were able to answer significantly more items correctly than subjects using the traditional method.
    b. Making subjects engage in either the traditional or the critical-analysis method of study is better than leaving them to study however they want.
    c. Method of study had a significant effect on test performance.***
    d. a, b, and c above
    e. none of the above because correlation does not imply causation

---

The next five questions are related to the following paragraph.

Mr. Rogers is interested in studying children's generosity. Gaining permission to conduct his research in a local preschool, he randomly selected 20 children, ranging in age from 3 to 5 years, to be subjects in his study. He gave each child a brown bag filled with tootsie rolls. Half of the bags contained 20 tootsie rolls and half contained 40 tootsie rolls. Mr. Rogers than counted the number of tootsie rolls each child gave away to other children.

85. Given the description of his study, Mr. Roger's hypothesis about generosity would best be described as
    a. generosity is how much you give away
    b. children who are generous will give more away
    c. children who have more will be more generous***
    d. children show more genuine generosity than adults do
    e. generosity is an innate quality rather than a learned social response

86. The number of independent variables in Mr. Roger's study is
    a. one: how many tootsie rolls or pieces of candy the children received in the bags*
    b. one: the number of tootsie rolls the children gave away
    c. two: 20 tootsie rolls and 40 tootsie rolls
    d. two: the number of tootsie rolls the children received and the number of tootsie rolls the children gave away
    e. two: the candy and the children

87. The operational definition of generosity in Mr. Roger's study is
    a. the age of the children
    b. the number of tootsie rolls the children received
    c. the number of tootsie rolls the children gave away***
    d. the sex of the children
    e. none of the above

88. In order for Mr. Roger's study to be a true experiment, the amount of candy in the bag (20 or 40 pieces) for a given child should be determined
    a. randomly.***
    b. by matching (e.g., for each child who is given 20 pieces, give a similar child 20 pieces also)
    c. by allowing the children to pick which bag they would get
    d. by counterbalancing
    e. It does not matter as all the children go to the same school.

89. An extraneous variable or variables in Mr. Roger's study is (are):
    a. the number of pieces of candy, and it is controlled
    b. the kind of candy, and it is controlled
    c. the number of pieces of candy given away, and it is not controlled
    d. the color of the bags containing the different numbers of candies, and it is controlled
    e. b and d above***

90. A cognitive psychologist, Dr. Holyoak, conducted an experiment to see if background noise would affect problem solving ability. In his study, 40 randomly chosen subjects were required to solve the same ten thought problems in a noisy setting while all other conditions (such as temperature of the settings, time of day, etc.) were held constant. All subjects were able to solve all 10 problems so Dr. Holyoak concluded that noise does not affect problem solving ability. As described, Dr. Holyoak's conclusion from this study
    a. would be warranted because subjects were randomly assigned to the two levels of the independent variable
    b. would not be warranted because there is only one level of the IV
    c. would not be warranted because there is a ceiling effect problem
    d. both B and C are problems in the study***
    e. would not be warranted due to the way subjects were chosen for the study

<u>Answer the next two questions with respect to the following paragraph.</u>
A researcher wanted to find out whether scouts prefer cotton or nylon sleeping bags. On the same camp out, the researcher had a troop of 40 boy scouts try cotton sleeping bags and a troop of 40 girl scouts try nylon sleeping bags. Each sleeping bag was rated for both softness and warmth.

91. A confounding variable in this design is
    a. cotton versus nylon material
    b. comfort versus warmth
    c. sex of the scout***
    d. type of sleeping bag
    e. none of the above

92. The confounding variable would be eliminated if
    a. only one type of sleeping bag was used
    b. the boy scouts rated for warmth only and the girl scouts rated for comfort only
    c. a randomly selected half of the boy scouts and girl scouts tried cotton sleeping bags while the other half of the boy and girl scouts tried nylon sleeping bags**
    d. all subjects are asked to make only one type of rating: either comfort or warmth
    e. none of the above would correct for the confounding variable

---

The next four questions are related.

Dr. Lovely is interested in what determines beauty and thinks symmetry is an important factor. For example, he believes that buildings and faces high in symmetry are more aesthetically pleasing than buildings or faces low in symmetry. To test his hypothesis, he constructed faces varying in symmetry on four different features: eyes, nose, mouth, and jaw line. In the most symmetrical faces, all four features were in perfect symmetry (i.e., the left side of the face is a mirror image of the right side). In the least symmetrical faces, all the features on the left and right side of the face are slightly different (e.g., the left and right side of the nose are shaped slightly differently, as are the left and right eyes and so forth.) He also constructed three in-between types of faces that have one, two, or three features that are, respectively, not symmetrical. Also, for each type of face, he used four different faces as examples. He then asked each of his participants to judge each type of face on a scale from 1 to 3, where 1 = unattractive and 3 = attractive. Specifically, each face appeared on a computer screen for 10 sec, after which the participant entered his or her rating for that face, and then the next face appeared, and so forth until all 20 faces had been presented.

93. In Dr. Lovely's study, the IV is _____ and its operational definition is _____.
    a. degree of symmetry; number of symmetric features***
    b. attractiveness rating; number of symmetric features
    c. beauty; rated attractiveness of the faces
    d. a and b above
    e. a and c above

94. By using four different faces at each level of his IV—rather than just one—Dr. Lovely
    a. is controlling for specific item effects
    b. is keeping particular faces from being confounded with the levels of his IV
    c. is introducing a confounding variable
    d. a, b, and c above
    e. a and b above, but not c***

95. Because Dr. Lovely is using a _____ design, he should _____
    a. within-subjects; control for order and/or sequence effects***
    b. between-subjects; randomly assign subjects to each condition
    c. between-subjects; be sure to have at least 10 subjects in each condition
    d. both b and c above
    e. none of the above is necessary because he is using five levels of his IV

Suppose that Dr. Lovely employed whatever control procedures were appropriate for his design and found the following results, where the entries in the table are the mean attractiveness ratings for each condition. Suppose further that Dr. Lovely conducts the proper statistical tests for his data and finds a significant overall effect of his IV. Then, when he compares the individual condition means, he finds that the mean rating for the least symmetrical face differs significantly from all the other faces, but the mean ratings among all the other types of faces do not differ significantly from one another.

Number of symmetrical features				
0	1	2	3	4
1.0	3.0	3.0	3.0	3.0

96. Given these results and statistical outcomes, Dr. Lovely concludes that, although symmetry is important and a face must have at least one symmetrical feature to be found attractive, attractiveness of the face does not increase with increasing number of symmetrical features beyond one. Dr. Lovely's conclusion
    a. is warranted because he has used more than two levels of his IV
    b. is not warranted owing to possible ceiling effects***
    c. is not warranted owing to possible floor effects
    d. is warranted because the values of his DV fall on an interval scale
    e. is warranted because it is consistent with the statistical analysis of his data

---

Answer the next two questions with respect to the following paragraph.

Dr. Jack and Dr. Jill wanted to investigate how going up a hill (walking versus running) to fetch a pail of water would influence participants' heart rates as well as whether it would have an impact on their emotions. To carry out their investigation, they measured how happy participants were and what their heart rates were before they went up the hill. After collecting these measures, participants were then randomly assigned either to run or walk up the hill when they went to get the water. Upon their arrival back to the bottom of the hill, Dr. Jack and Dr. Jill measured each participant's happiness and heart rate again. On the basis of the data they collected, they concluded that participants who ran up the hill had increased heart rate and were happier than those who walked up the hill.

97. The study above measured heart rate, which was a dependent variable measured on a _____ scale.
    a. nominal
    b. ordinal
    c. interval
    d. ratio***

98. The above study used a _____ design with _____ independent variable (s) and _____ dependent variable (s)
    a. Within subjects; one; two
    b. Within subjects; two; two
    c. Between subjects; one; two***
    d. Mixed-subjects; two; two
    e. Between subjects; two; two

Answer the next 3 questions with respect to the following paragraph

Dr. Loftus is investigating whether memory can be influenced by misleading questions. She shows subjects a short film of a car accident involving a blue car and later asks each subject 10 questions about it. Half the subjects are asked question (W) and then question (Z); the other half are asked (X) and then (Z). The questions are:

(W) How fast was the blue car going when it ran the stop sign?
(X) How fast was the blue car going when it turned right?
(Z) Did you see a stop sign for the blue car?

In reality there is no stop sign in the film. Dr. Loftus hypothesizes that subjects who are asked (W) are more likely to answer YES to (Z) than subjects who are asked (X).

99. This design is
   a. between-subjects with 2 levels of the independent variable***
   b. within-subjects with 2 levels of the independent variable
   c. a mixed-subjects factorial design with two independent variables
   d. within-subjects with 3 levels of the independent variable
   e. between-subjects with 3 levels of the independent variable

100. The dependent variable
   a. cannot be determined from the description
   b. is whether subjects are asked question (Z)
   c. is subjects' response to question (Z)***
   d. is whether subjects are asked (X) or (W)
   e. (c) and (d)

101. If all the subjects in the experiment answer NO to question (Z), Dr. Loftus should
   a. conclude that she should have had a stop sign in the film
   b. conclude that there was a statistically significant difference between groups
   c. question the test-retest reliability of her results
   d. conclude that subjects were not paying attention to the directions
   e. none of the above***

---

102. Office workers were asked to rate their preference of two snacks that would be delivered to the office one week later: fruit or cookies. They were asked to rate their desire of each snack on a 7 point scale. The workers were also asked to write down how long it had been since they had eaten anything (the study was conducted at 4:00PM). The researchers found that current hunger levels determined the preference of a future snack. Workers who had not eaten for longer periods of time were more likely to prefer cookies whereas people who had eaten closer to the time of the study were more likely to prefer fruit, this is a
   a. Correlational study***
   b. True experiment with one IV (type of snack)
   c. True experiment with one IV (hunger level)
   d. Factorial design with two IV's (type of snack, hunger level)
   e. Factorial design with two IV's (type of snack, time of study)

Answer the next three questions with respect to the following paragraph

Researchers wanted to find out which brand of frozen cheese pizza teenagers prefer, brand A or brand B. To insure that all the pizza was ready at the same time for the ten teens gathered, they baked A in a regular oven and B in a microwave. Each teen then chose one slice of pizza and rated how much they liked it on a ten point scale.

103. Because teens got to choose their own slice of pizza
    a. researchers have a better idea of what brand teens prefer
    b. this is an example of simple random sampling
    c. this is a good way of randomly distributing pizza to the subjects
    d. this created another level of the independent variable
    e. a selection effect problem was introduced into the study***

104. A confounding variable in this study is
    a. the brand of pizza
    b. the age of the subjects
    c. the type of oven used to bake the pizza***
    d. the number of subjects involved in the study
    e. none of the above

105. If the ratings for A are significantly greater than the ratings for B, advertisers could truthfully proclaim
    a. Pizza A is preferred by more teens
    b. In a taste test between Pizza A and Pizza B, more teens preferred A
    c. In a taste test between Pizza A and Pizza B, A was rated as significantly better than B
    d. None of these statements can be made because this was a between subjects study
    e. None of these statements can be made because of a lack of internal validity***

Answer the next 4 questions with respect to the following paragraph

Millie studies the effects of regular exercise on the appetites of rats. She gathers a group of 50 young rats and exposes half of them to regular exercise and the other half of them to no exercise for a period of three weeks. The exercising rats are put into large cages where they have no choice but to run through a complex exercise maze to reach their food. All of the rats in this condition go through the maze three times a day for their meals. The rats in the no exercise condition are put into a confined space so that they have limited opportunity to move. They also eat three meals a day. Millie measures the amount of food (in ounces) consumed by the two groups of rats over the three week period and finds that exercising rats do indeed consume a significantly greater amount of food than the non-exercising rats.

106. The independent variable is
    a. the number of meals the rats are fed
    b. the amount of exercise the rats engage in***
    c. manipulated so that Millie can study the functional relationship between exercise and food consumption
    d. manipulated within subjects
    e. (b) and (c)

107. The dependent variable of the study
    a. is a behavioral measure***
    b. is a self-report measure
    c. is measured on an interval scale
    d. is measured on an ordinal scale
    e. is measured on a nominal scale

108. The amount of space a given rat has to move in during the course of the study
    a. is confounded with the independent variable
    b. is an extraneous variable
    c. may be causally related to the rats' eating behaviors
    d. (a) and (c)
    e. (a), (b), and (c)***

Answer the next 3 questions with respect to the following paragraph:

Farmer Frank is deciding what type of grass he should grow to feed his sheep in order to produce the best wool. He uses three separate plots of land and plants a different grass on each plot. On one plot he grows "Sweet Grass," on another plot he grows "Strong Grass," and on the last plot he grows "Rich Grass." He then randomly divides his sheep into three groups and assigns each group to eat one of the types of grass. He then records how much grass each sheep eats on a daily basis. He finds that sheep eating "Sweet Grass" eat an average of 5 pounds a day, the sheep eating "Strong Grass" eat an average of 4 pounds a day, and the sheep eating "Rich Grass" eat an average of only 3 pounds a day. Frank concludes from this that he should only grow "Sweet Grass" from now on.

109. In Farmer Frank's study, the independent variable is
    a. confounded with the type of grass the sheep are fed
    b. the amount of grass each sheep eats
    c. confounded with the plots the grass is grown on***
    d. the amount of wool the sheep produce
    e. both (b) and (c)

110. The dependent variable in this study is
    a. being measured on a ratio scale
    b. an example of a behavioral measure
    c. a between-subjects variable
    d. (a) and (b)***
    e. (a), (b), and (c)

111. If one were to argue that Farmer Frank's measure of grass consumption was not a valid way to determine which grass produced the best wool, it would be an argument that
    a. Farmer Frank's dependent variable lacks construct validity
    b. Farmer Frank's independent variable is confounded with another variable
    c. Farmer Frank chose a poor operational definition for his dependent variable
    d. the quality of the wool produced is not related to the type of grass sheep consume
    e. both (a) and (c)***

Answer the next 3 questions with respect to the following paragraph

Soy is able to reduce cholesterol and blood pressure because it contains plant estrogens called isoflavones, according to researchers cited in the Los Angeles Times. Dr. John Crouse and his colleagues randomly assigned patients in the study to eat soy protein containing one of four amounts of isoflavones, ranging from 3 milligrams to 62 milligrams. The patients recruited for the study all had high levels of cholesterol and high blood pressure. The researchers found that the amount of cholesterol reduction was directly proportional to the isoflavone content of the soy. Subjects showed a 9% drop after only nine weeks on the diet with 62 milligrams of isoflavones. Those getting only 3 milligrams, however, showed virtually no decrease. Likewise, those eating the greatest amounts of isoflavones showed the greatest decrease in blood pressure.

112. In this study there is/are _____ independent variable(s), each with _____ levels.
    a. 4 ; 1
    b. 1 ; 4***
    c. 1 ; 2
    d. 2 ; 2
    e. none of the above

113. The relationship between isoflavone consumption and blood pressure shows
    a. A negative relationship***
    b. A positive relationship
    c. no relationship
    d. the opposite relationship as that between isoflavone consumption and cholesterol levels
    e. two of the above

114. Extraneous variables in this study is/are
    a. the gender of the subjects in the study
    b. the level of cholesterol and blood pressure of the subjects when they started the study
    c. the other types of food subjects ate during the study
    d. all of the above***
    e. (a) and (c)

Answer the next 2 questions with respect to the following paragraph:
The Polly Esther Company sells children's clothing through catalogues. They want to determine what type of catalogue sells more clothes - catalogues in which children are pictured wearing the clothes, or catalogues with pictures of the clothes alone, without children. They create one catalogue with kids wearing the clothing and another catalogue with pictures of the same clothes alone. 1000 of each type of catalogue are randomly sent to people on their mailing list (they ensure that each customer receives only one type of catalogue). Polly Esther finds that significantly more clothes are bought by people who received the catalogue in which children are modeling the clothes.

115. The independent variable in this study is
    a. manipulated quantitatively so that Polly Esther can measure how much clothing is sold
    b. the type of clothing
    c. the type of catalogue***
    d. confounded with type of catalogue
    e. the number of catalogues sent out

116. The actual clothes pictured in the catalogues
    a. are an extraneous variable held constant***
    b. are a confounding variable
    c. make the study a within subjects design
    d. are a threat to the internal validity of the experiment
    e. are a level of the independent variable

Answer the next 4 questions regarding the following paragraph
After assigning subjects to swim for 30 minutes a day for one month, either in a pool or in the ocean per the preference of the subject, a researcher measured the change in resting heart rate of the subjects. The researcher found that there was a much improved heart rate for those who swam in the ocean, but no change in heart rate for those who swam in the pool.

117. The independent variable in this study is
    a. confounded with the time of day
    b. amount of time swimming
    c. manipulated within subjects
    d. measured on a ratio scale
    e. none of the above***

118. The researcher can conclude
    a. that it is better to swim in the ocean because the waves make it harder
    b. that it is better to swim in the ocean because the water is usually colder
    c. that it makes no difference to heart rate whether one swims in the ocean or a pool
    d. that he caused a problem in his study by allowing subjects to choose where to swim***
    e. none of the above

119. The dependent variable is
    a. measured on an interval scale
    b. demonstrating a ceiling effect
    c. manipulated between subjects
    d. a physiological measure***
    e. confounded with swim location

120. The amount of time that subjects spent swimming
    a. is an extraneous variable that was counterbalanced
    b. is confounded with the independent variable
    c. is an extraneous variable that was controlled***
    d. poses a threat to the internal validity of the study
    e. is one of the independent variables

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121. Kaye Mart, owner of a clothing store, tells her store manager that they need to improve customer service. To do this, she asks him to have an employee stand at the store entrance to greet customers by saying "Welcome to Kaye Mart." The manager replies that this is not customer service – it would be better to have a policy that any employee in the store, with a customer within six feet of them, should ask "Can I help you?" The manager is saying that:
    a. Improving customer service will lead to better sales
    b. Kaye is confounding the operational definition with the independent variable
    c. His operational definition of customer service is better than Kaye's ***
    d. Kaye is confounding the operational definition with the dependent variable
    e. Saying "Welcome to Kaye Mart" is a level of the independent variable

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<u>The next 5 questions are related</u>

Makers of a new instant coffee, Java Juice, conduct a taste test to compare their drink to Yuban and Folgers. They recruit coffee drinkers and give them an unmarked cup of each coffee. The subjects drink the coffees in any order they want and rate them on an interval scale.

122. Which of the following might make up the scale on which subjects rate how much they like each coffee
    a. not at all, somewhat, a lot, it's fabulous
    b. a scale of 1 through 5, 1 being the worst and 5 being the best
    c. a scale of 0 through 100, 0 being worst and 100 being best
    d. I hate it ; I like it (circle one)
    e. (b) or (c) ***

123. This design is _____ and should be analyzed with _____
    a. within-subjects ; one way ANOVA***
    b. between-subjects ; independent samples t test
    c. within-subjects ; two way ANOVA
    d. between-subjects ; two way ANOVA
    e. within-subjects ; dependent samples t test

124. The order in which subjects drink the coffees
    a. is completely controlled through subjects randomly choosing the order in which they taste the coffees
    b. is sufficiently controlled through subjects counterbalancing the order in which they taste the coffees
    c. is a constant because each subject is their own control
    d. is a potentially confounding variable***
    e. is one of the independent variables in the study

Researchers note that some subjects add milk, some add sugar, and some add milk and sugar to their coffees. They decide to run the experiment again, with subjects who only drink black coffee. This time, each subject is handed cups in a counterbalanced order determined by the experimenter.

125. Changing the subject sample to only black-coffee drinkers _____, and having the experimenter counterbalance the order in which subjects drink the coffees _____
    a. decreases external validity ; increases internal validity***
    b. increases experimenter bias ; increases potential ceiling effects
    c. makes the study a correlational design ; adds another confounding variable
    d. changes the study into a true experiment ; adds another independent variable
    e. reduces the number of subjects required ; adds another level of the independent variable

126. Results of the revised experiment show that 4 out of 5 subjects prefer Java Juice to the other coffees. The researchers may conclude and truthfully proclaim in ads that:
    a. research shows you can't buy a better tasting coffee than Java Juice
    b. 4 out of 5 coffee drinkers recommend Java Juice
    c. 4 out 5 people who drink black coffee think Java Juice is twice as good as Yuban or Folgers
    d. 4 out of 5 coffee drinkers like Java Juice better than Yuban or Folgers
    e. 4 out of 5 people who drink black coffee prefer Java Juice to Yuban and Folgers

Answer the next 5 questions regarding the following paragraph

Subjects with colds were given candies to suck on every two hours (while awake) during the first full day of their colds. Half of the 100 subjects sucked on citrus flavored candies with zinc, while the other half sucked on citrus flavored candies without zinc. Researchers reported that the patients who sued the zinc candies got over their symptoms significantly sooner. “The zinc group had significantly fewer days with coughing, headache, nasal congestion, and sore throat,” declared Dr. Koff, head of the study.

127. The most likely hypothesis for this study is
    a. Citrus flavoring relieves cold symptoms
    b. Sucking on candy with zinc is the best way to cure a cold
    c. Zinc stops cold viruses from multiplying
    d. Citrus candies with zinc may relieve cold symptoms***
    e. There is no hypothesis in this study

128. The number of independent variables in the study is/are
    a. One: having a cold
    b. One: type of candy***
    c. Two: candy with zinc and candy without zinc
    d. Two: type of candy and number of candies consumed
    e. Two: type of candy and having a cold

129. This study is best described as
    a. Within subjects design
    b. Mixed subjects design
    c. Correlational design
    d. Simple design***
    e. Factorial design

130. The number of candies each subject sucked on
    a. Is the dependent variable
    b. Is an independent variable
    c. Is an extraneous variable***
    d. Is held constant
    e. Both C and D

131. The quote from Dr. Koff
    a. Is a theoretical statement
    b. Provides an operational definition for a construct in the study
    c. Describes confounding variables Dr. Koff became aware of
    d. Gives some of the information necessary to replicate the study
    e. Both B and D***

<u>Answer the next two questions with respect to the following paragraph</u>

Joe randomly divides subjects into two groups. All subjects spend 15 minutes studying a complicated essay about water conservation. Half the subjects study in a messy room while the other half study in an orderly room. Subjects return a week later to take a test on the essay. Half the subjects who studied in the messy room are tested in that room while the other half are tested in the orderly room. Likewise, half the subjects who studied in the orderly room are tested back in the orderly room while the other half are tested in the messy room.

132. The hypothesis in this study is that
    a. Messy people prefer to study in messy environments and orderly people prefer to study in orderly environments
    b. Memory for stories is function of time between study and test
    c. Subjects will remember more if they can study for as long as they like
    d. Memory will be influence by whether there is a match or mismatch between the study and test environments***
    e. The type of information you are studying determines where you should study it

133. Joe is holding constant
    a. What subjects study
    b. How much time subjects study
    c. The room in which the test is given
    d. Only two of the above are held constant***
    e. (a), (b), and (c) are all held constant

Answer the next 5 questions with respect to the following paragraph
Apple Tire Company wants to know which type of tires – steel belted or not steel belted – will help race car drivers go faster. To answer this question the company recruits two race car drivers. On one driver's car (a green Chevy) they place the steel belted tires, and on the other driver's car (a blue Ford), they place tires that are not steel belted. The tires are identical in all other respects. Each driver is then told to do 100 laps around the same race track as fast as possible. The time it takes each driver to finish 100 laps is measured.

Match each of the following items from the study with its appropriate descriptor. Each descriptor can be used more than once. The descriptors are as follows:

a. Confounding variable
b. Counterbalancing across conditions
c. The dependent variable
d. The independent variable
e. A constant

134. The type of car driven in each condition is **(A)**

135. The driver of each car is **(A)**

136. The number of laps each driver takes around the track is **(E)**

137. The color of the cars driven in the study is **(A)**

138. The type of tire is **(D)**

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Answer the next 3 questions with respect to the following paragraph
An obesity researcher is trying to increase the amount of time children exercise. He has invented the "TV-cycle" and tests it on overweight 12-year-old boys. For half the subjects, he rewires their home TV to work only while the viewer pedals on the attached "TV-cycle." For the other half of the subjects, a standard indoor exercise bicycle is put in the same room with their TV, and the children are told it would be a good idea to pedal while watching TV. For ten weeks the children write down how much time they ride the bike. The children who had the standard bike reported an average of 8 minutes of bike riding per week. The "TV-cycle" subjects reported that they pedaled an average of 3 hours per week.

139. The independent variable is/are
    a. watching TV
    b. type of bicycle ***
    c. the amount of time riding the bike
    d. (a) and (b)
    e. (a), (b), and (c)

140. The dependent variable is a _____ measure
    a. **self-report*****
    b. behavioral
    c. physiological
    d. (a) and (c)
    e. (a), (b), and (c)

141. An extraneous variable that was controlled was
    a. what the kids watched on TV during the study
    b. the amount of TV the kids watched during the study
    c. the amount of time the kids pedaled
    d. the age and gender of the subjects ***
    e. the type of bicycle