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Student #: _____

YORK UNIVERSITY

FACULTY OF HEALTH

School of Kinesiology and Health Science

Kinesiology 2049 3.0

Research Methods in Kinesiology

Quiz 1 (Version A)

November 3, 2010

- This exam is worth 20% of the total course mark.
- **NOTE:** The answers to the multiple-choice questions are to be done on the separate answer sheet provided.
- **Calculators are not permitted.**
- Time allowed - 45 minutes.
- Neatly print your name in the space provided.

MARK = _____

40

1. Four significant points in human history were identified during lecture. These points were identified/characterized by :
 - a) important technological advances
 - b) great increases in information
 - c) the development of language
 - d) the ability to save and/or distribute ideas
 - e) the ability to develop ideas more quickly

2. Which of the following is **not** considered a “way of knowing” according to the five sources that humans depend upon to gain knowledge?
 - a) reasoning
 - b) personal experience
 - c) interpretation
 - d) custom and tradition
 - e) scientific inquiry

3. Early in the course a video about “psychics” was shown. One of the psychics was able to determine the number and suite of a card that had been pulled from a deck of cards even though the psychic was using the telephone. How was that feat performed?
 - a) The psychic was able to sense the card because the psychic had special abilities.
 - b) The psychic had ESP.
 - c) The audience member who selected the card was part of the trick and told the psychic the card number and suite.
 - d) All the cards were marked. The host and the psychic had a predetermined code to use on the phone.
 - e) Each of the cards had a mini transmitter attached which signaled the psychic.

4. When an advertising company states that various protein supplements will help build muscle fast and then uses before-and-after photographs of an individual who shows considerable muscle development, which technique is the company using?
 - a) Power words to gain attention.
 - b) Misleading comparisons to encourage consumers to jump to conclusions
 - c) Imagery to appeal to emotion
 - d) Testimonials
 - e) Parity claim

5. The article discussed in class and posted on Moodle entitled, “The Fat Hits the Fan”, proposed an alternate hypothesis. The alternate hypothesis discussed in the article was that:
- too much fat in our diet is making North Americans obese at an alarming rate
 - too little fat in our diet is making North Americans obese at an alarming rate
 - too much processed food in our diet is making North Americans obese at an alarming rate
 - too little processed food in our diet is making North Americans obese at an alarming rate
 - North Americans should eat more carbohydrates than recommended by the Food Guide Pyramid.
6. In the textbook, a humorous story by Mark Twain is used to illustrate a 6 step research process used to develop new knowledge, [similar to the one discussed in class]. The following passage is from part of the story: “*The milk was not taken in by the mouth; it was condensed from the atmosphere through the cow’s hair.*” Which step in the process does this passage illustrate?
- Ask a new question.
 - Make initial observations
 - Conduct a systematic investigation
 - Analyze the new information
 - Interpret the findings
 - Integrate the findings with previous knowledge
7. The concept of Number Needed to Treat [NNT], was discussed in lectures. Determine the NNT in the following example. Researchers give an analgesic agent to 100 people and find that 70 have their pain relieved within two hours. But if we give those same 100 people a placebo tablet containing no active drug, we observe pain relief in only 20. The NNT for this example is:
- | | | | | | |
|----|---|----|----|----|-----|
| a) | 1 | c) | 20 | e) | 70 |
| b) | 2 | d) | 50 | f) | 100 |
8. The hypothesis of a study is:
- a prediction or expectation regarding the acceptance of an idea by the general public
 - a prediction or expectation regarding the acceptance of an idea by other scientists
 - a prediction or expectation regarding when the study will be completed
 - a prediction or expectation regarding the outcome of the study
 - a prediction or expectation regarding the experimental design that may need to be used.

9. As discussed in lecture and the Readings, research has shown that skills are most effectively learned using a random practice schedule. It is believed that when practicing randomly, the learner constructs an action plan, is forced to forget it, and develops an new action plan for the next skill. The underlined statement would best be described as a:
- a) Principle
 - b) Theory
 - c) Law
 - d) Fact
 - e) Null hypothesis
10. Based on your knowledge of the Greek and Latin roots of scientific terms, the phrase **leuko** would describe what colour?
- a) Black
 - b) White
 - c) shade of red
 - d) Orange
 - e) Green
 - f) Blue
11. Based on your knowledge of the Greek and Latin roots of scientific terms, the word **morphology** means:
- a) The form or structure of an organism
 - b) an agent that prevents or reduces inflammation
 - c) a statement that both products are equivalent
 - d) a loss of movement function
 - e) a mode in which an organism absorbs its food
 - f) a condition affecting the joints
12. Which **two** important functions do theories serve in the development of knowledge?
- a) organization: discovery
 - b) reduction: prediction
 - c) prediction: organization
 - d) organization: reduction
 - e) control: organization
13. If research demonstrates that behaviours or events are systematically related to one another, then at what level of knowledge is the researcher working?
- a) Research to explain.
 - b) Research to describe.
 - c) Research to control.
 - d) Research to predict.
 - e) Research to prevent.

14. The simplest level of knowledge to achieve is _____ while the most difficult level of knowledge to achieve is _____.
- a) prediction: description
 - b) description: explanation
 - c) control: description
 - d) description: control
15. What does the scientific axiom **empiricism** imply?
- a) Scientists must be careful when gathering data
 - b) Scientists must remain impartial
 - c) The universe is orderly and consistent
 - d) Knowledge should be based upon observation
 - e) The universe can be understood
16. A **disadvantage** of animal research is that:
- a) animals must always be treated ethically.
 - b) it is not easy to make valid generalizations from animals to humans.
 - c) it is not easy to control all the variables in a study.
 - d) animal research is becoming too expensive to conduct.
 - e) most modern societies don't permit animal research any longer.
17. Research that relies mainly on subjective observations of behavior in natural situations and generally involves the investigator as the primary data collecting agent is known as:
- a) applied research
 - b) experimental research
 - c) quantitative research
 - d) qualitative research
18. During the period of 2 weeks, John conducts a study to determine the effects of a particular drug on endurance capacity in male athletes of four age groups [8-10, 11-12, 13-14, and 15-17]. The best way to classify this study would be
- a) descriptive and cross-sectional
 - b) descriptive and longitudinal
 - c) experimental and longitudinal
 - d) experimental and cross-sectional

19. Mark's professor is a scientist. Mark learns that scientists are gregarious, caring human beings. Mark concludes that his professor is a gregarious, caring human being. This situation is an example of:
- a) inductive reasoning
 - b) deductive reasoning
 - c) lack of reasoning
 - d) common sense
20. The authors of an animal study examined the effects of cocaine conditioning on physiological responses to exercise and found that cocaine conditioned rats had a greater sympathetic response to exercise than the control group. The testable hypothesis is that there would be no physiological differences between the groups of cocaine conditioned rats and the control group. This is an example of a[n] _____.
- a) conceptual framework
 - b) null hypothesis
 - c) alternative hypothesis
 - d) both a) and b)
 - e) none of the above
21. Which topic should **not** be dealt with in the "Discussion" section of a research paper?
- a) answer questions that were posed in the introduction section
 - b) discuss the descriptive and inferential statistics used
 - c) offer suggestions for future investigations
 - d) discuss limitations of the study and their consequences
 - e) discuss the theoretical/practical importance of the findings
22. Published journal articles include an Abstract at the beginning of the article. Which statement about abstracts is **untrue**?
- a) abstracts state the purpose or objective of the research study
 - b) abstracts include a review of all the background literature used for the study
 - c) abstracts include a description of the subjects who took part in the study
 - d) abstracts include a description of the methods used in the study
 - e) abstracts summarize the notable results in the study
23. Which term refers to statistics used to summarize the data?
- a) Inferential statistics
 - b) Differential statistics
 - c) Correlation statistics
 - d) Multiple statistics
 - e) Descriptive statistics

24. Read the following passage and determine what type of research this is an example of:

A 1993 study titled, Coping Strategies Used by National Champion Figure Skaters, looked at how champion figure skaters developed coping strategies depending on their perception of sources of competitive stresses. The researchers used interviews. They concluded that figure skaters rely primarily on various aids such as self-talk, positive focus and orientation to cope with competitive stress.

- a) Descriptive b) Qualitative c) Quantitative d) Experimental

25. A problem of the deductive reasoning method is that:

- a) facts and theories are limited to the circumstances under which they are drawn.
- b) researchers emphasize empirical data and view sciences as working from data to theory.
- c) many of the assumptions made about behaviour may be difficult to test.
- d) observations of general facts are shaped to explain specific occurrences.
- e) inductive reasoning is more widely accepted.

26. The following sentences are from a journal article about Overtraining and Recovery. “Parameters that have been studied as possible markers of staleness include resting and/or post-exercise heart rate [HR] and blood pressure [BP] (4,26,29), resting and exercise oxygen consumption [VO₂] (4,10,29), and blood level enzymes(13,28) and hormones (1,10,13). To date, these parameters have either shown inconsistent response, or where trends have appeared, there are too few studies report to make definite conclusions.” Where in a journal article would these sentences most likely appear?

- a) Abstract
- b) Literature Review
- c) Methods
- d) Results
- e) Discussion

27. A researcher might manipulate the mode of strength training [free weights and weight machines] and measure strength gains over a 6 month period to determine if one type of strength training is more effective than another. This type of research would best be described as:

- a) Descriptive; longitudinal; quantitative
- b) Descriptive; longitudinal; qualitative
- c) Experimental; longitudinal; qualitative
- d) Cross sectional; basic; qualitative
- e) Applied; experimental; quantitative
- f) Basic; descriptive; qualitative

28. According to the course readings and lectures,
- a) qualitative research relies on experimental control and numerical information to describe behaviour while quantitative research relies on observations of natural problems
 - b) cross-sectional research compares separate groups of individuals at the same point in time while longitudinal research tracks cause-and-effect relationships
 - c) experimental research examines specific groups of individuals over time while descriptive research describes behaviour and events as they naturally occur
 - d) experimental research examines cause-and-effect relationships while basic research attempts to discover new knowledge.
29. A computer file-type known as a “.gif” would be a _____.
- a) Web page
 - b) Picture
 - c) Compressed file
 - d) Gamma Interactive File and should be viewed carefully
30. While doing Lab # 2 you were asked to find out which country won the silver medal for women’s indoor volleyball in the 1988 Olympic Games. If you did the searching for this yourself you will undoubtedly remember the answer to this is:
- a) Canada
 - b) USSR
 - c) Japan
 - d) Peru
 - e) USA
31. File types are determined by what part of the filename?
- a) Appendages
 - b) extensions
 - c) addendum
 - d) appendix
 - e)prefix
32. A typical URL is composed of three parts: a protocol, a domain name, and a node.
- a) True
 - b) False
33. When using EXCEL spreadsheets in Lab # 4 you learned several methods to create a “Named Variable” or a “natural language expression”. Which of these is **NOT** a method of creating named variables?
- a) Insert/Name/Define
 - b) Insert/Name/Data
 - c) Insert/Name/Create
 - d) Name Box

34. As you know from Lab #4, there are several methods of creating named variables. You want to create names for several columns or rows, but you also want to save time as you do this. In this case, the best/most efficient method to use would be:

- a) Name Box method
- b) Insert / Name / Create
- c) Insert / Name / Define
- d) Insert / Name / Paste
- e) Insert/Name/Data

35. Which of the following steps could be used to create the correct formulas in C4:C6? [Other steps may be needed in addition to these].

- a) 0.06 could be entered into formulas in E4:E6
- b) E2:E3 should be named as “Conversion Factor” using “Insert/Name/Create”
- c) E3 should be named as “Conversion Factor” using “Insert/Name/Define”
- d) Any of the above steps will produce values in C4:C6
- e) None of the above steps will produce values in C4:C6

	A	B	C	D	E	F
1						
2		Weight in Ounces	Weight in Pounds		Conversion Factor	
3		2	0.12		0.06	
4		5	0			
5		7.5	0			
6		12	0			
7						
8						
9						
10						

36. Identify the ACTIVE CELL in the Excel worksheet to the right:

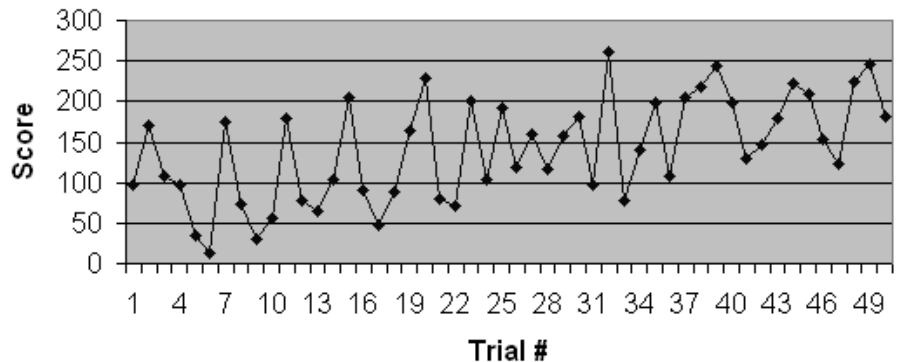
- a) A1
- b) B1
- c) A9
- d) B9
- e) There is no active cell in this worksheet

	A	B	C	D	E	F	G	H	I
1									
2									
3									
4									
5									
6									
7									

37. When comparing movies and films of Tom Cruise and Sandra Bullock [Lab # 2], which statement is **true**?
- Cruise has been in more movies than Bullock
 - Bullock has been in more movies than Cruise
 - Cruise and Bullock have been in the same number of movies
 - Bullock and Cruise are not actors
38. The formula in cell D4 reads “=B2+C3”, if D4 is dragged and filled to D7, the formula in D7 will be:
- B2+C6
 - =B2+C6
 - =B2+C3
 - =B5+C6
 - None of the above
39. When using Microsoft Excel to find the mean value of cells A1 to A10, the correct formula would be:
- =MEAN(A1:A10)
 - =AVERAGE(A1-A10)
 - AVERAGE(A1:A10)
 - MEAN(A1:A10)
 - =AVERAGE(A1:A10)

40. In Lab # 5 you were given data to produce the chart to the right. To determine whether or not the subject was improving in the dart throwing task you were asked to add a “Trendline”. The trendline was a “moving average”. What information does a **Moving Average** convey?

Scores on dart throwing task



- It calculates the average of a “user-defined” number of previous data points.
- It calculates the average of all the data points prior to the current data point.
- It calculates the average of the next few data points.
- It predicts what the average value of the next 5 data points will be.

-----The End-----

Function List

AND(logical1,logical2, ...)

AVERAGE(number1,number2, ...)

COUNT(value1,value2, ...)

COUNTA(value1,value2, ...)

COUNTIF(range,criteria)

DAVERAGE(database,field,criteria)

IF(logical_test,value_if_true,value_if_false)

OR(logical1,logical2,...)

MIN(number1,number2, ...)

MAX(number1,number2,...)

MEDIAN(number1,number2, ...)

MOD(number,divisor)

RANDBETWEEN(bottom,top)

STDEV(number1,number2,...)

SUM(number1,number2, ...)

VLOOKUP(lookup_value,table_array,col_index_num)