Name_____Quiz Sections 1.3 and 1.4 8-28-15 Critical Thinking and Design of an Experiment or an Experiment

Forty people with sore backs are randomly selected and divided into two groups. One group is treated weekly with laughing sessions and an exercise regime. The other is treated weekly with exactly the same regime, but no laughing sessions. After one year, both groups are questioned about their sore backs.

1. This is an example of _____
   a. an experiment that uses blinding
   b. an experiment that uses double blinding
   c. an observational study
   d. none of these

2. This is an example of _____
   a. Retrospective data collection
   b. Cross sectional data collection
   c. Prospective data collection
   d. None of the above

3. Give a brief reason why you selected your answer in question 2 above.

   _____

   _____

   _____

4. State the members of the "control group" if possible, if NOT possible state so!

   _____

5. What is/are being studied?
   a. The impact of an exercise regime on people with sore backs
   b. The impact of laughing therapy paired with an exercise therapy on people with sore backs
   c. Both a and b
   d. None of the above

6. Which statement is more accurate?
   a. There is a placebo effect in this scenario
   b. There is NOT a placebo effect in this scenario
   c. Both of the statements above are accurate
   d. None of the above

7. What specifically does this scenario attempt to study?

   _____

   _____

8. Define confounding.
   You must specifically must control of variables (use complete sentences)

   _____

   _____

   _____

9. State three properties of a good study or experiment
   a. _____
   b. _____
   c. _____

10. Does this scenario meet the criteria stated in #9?
    a. Yes it meets all three criteria
    b. No it does not meet all three criteria,
       It fails to _____
       (complete this statement only if it fails to meet the criteria)

11. After this scenarios data is analyzed it is found that 12 people that participated in the laughing sessions had less pain in their backs and 14 of those that did not participate in the laughing sessions had less pain In their backs.

    Complete the following statement that is MOST correct

    This is an example of causation because _____

    This is an example of correlation because _____

12. What specifically is the difference between an experiment and an observational study?

    _____

13. Give a specific example of a loaded question _____

14. Give a specific example of a self-interest study_____

15. Explain how a curve on a test is an example of deliberate distortion

_____

16. The administration team at Richwoods High School takes a poll of four freshman. It determines that based on the poll of these four freshman, that 75.6% of the freshman believe that the new cell phone policy has been an improvement on last year's policy on the use of cell phones at Richwoods High School.
Give at least three things that are a problem about this scenario and the method in which they collected the data (use complete sentences)

    a. _____

    b. _____

    c. _____

17. Explain the term "nonresponse"_____

18. How does a nonresponse differ from missing data? _____

19. Give an example of a question that could be interpreted differently based on the order of the question

    a. Order 1 of a question _____

    b. Order 2 of a question_____

    Explain how changing the order of that question could skew or change the result of the data being collected
    Use complete sentences

    _____

    _____

20. Explain how each of the following could be used to misrepresent data (you can use pictures to help support answers)

Pictographs	Bar charts