This quiz is based on Sections 3.1 through 3.4 in the Utts and Heckard textbook.

Questions 1–3: What is the fundamental rule for using data for inference?

(a) Whenever we want to study the effectiveness of a new drug, we must always be sure to give one set of subjects an inert substance disguised to look like the real thing.
(b) Every conceivable group of the required size from the population must have the same chance of being the selected sample.
(c) Sample data may be used to make inferences about a much larger group if the data can be considered to be representative with regard to the question(s) of interest.
(d) Any legitimate sample must include at least one percent of the population.

Questions 4–6: In one study, blood pressure and frequency of certain types of religious activities (like prayer and church attendance) were measured on a sample of individuals. Which of the following is most likely the explanatory variable in this study?

(a) Blood pressure
(b) Frequency of certain types of religious activities
(c) Number of subjects surveyed
(d) Name of the church attended, if any

Questions 7–9: Which of the following terms may be accurately applied to the study described in questions 4–6?

(a) Observational study
(b) Double-blind study
(c) Randomized experiment
(d) Placebo experiment

Questions 10–12: Three of the following four phrases are synonymous. Which one is not the same as the other three?

(a) Lurking variable
(b) Dependent variable
(c) Response variable
(d) Outcome variable

Continued on reverse.
Questions 13–15: In one example in the textbook, the price of a book seems to be lower the more pages it has. However, this effect turns out to be due to the fact that hardcover books tend to have fewer pages and cost more than softcover books. If we consider hardcover books (or softcover books) separately, the price of a book seems to be higher the more pages it has.

In this situation, what is the confounding variable?

(a) Price  
(b) Type of binding (hardcover or softcover)  
(c) Number of pages  
(d) Number of books

Questions 16–18: Consider these two statements:

(i) An observational study allows the researcher to determine cause and effect.
(ii) A randomized experiment allows the researcher to determine cause and effect.

Which of these two statements is/are true?

(a) (i) only  
(b) (ii) only  
(c) Both (i) and (ii)  
(d) Neither (i) nor (ii)

Questions 19–21: What is a double-blind experiment?

(a) An experiment in which a placebo is given to both groups of subjects  
(b) An experiment in which subjects are studied for many years and the outcome of the experiment is not determined until all subjects show some effect from the medication being tested  
(c) An experiment in which neither the subject nor the researcher knows to which group the subject has been assigned  
(d) An experiment in which extra-sensory perception is tested by enclosing both the “sender” and the “receiver” in dark, soundproof rooms.

Questions 22–24: Suppose I wish to test a new drug. I select a group of test subjects and randomly split them into two groups. What do we call the group that gets the new drug?

(a) The placebo group  
(b) The blinded group  
(c) The control group  
(d) The treatment group  
(e) The confounded group