1. The Women’s Health Study randomly assigned nearly 40,000 women over the age of 45 to receive either aspirin or a placebo for over 10 years to examine the effect of aspirin on cancer risk to healthy women. This long-term trial was best conducted as

A. a census.
B. an observational study.
C. a randomized comparative experiment.
D. a single-blind randomized comparative experiment.
E. a double-blind randomized comparative experiment.

2. In the previous problem, suppose that the researchers suspected that women over the age of 55 may respond differently to the treatment. Given that a random sample of 40,000 women over the age of 45 has already been chosen, the study would have been improved by

A. a stratified sample, with strata determined by age.
B. a stratified sample, with strata determined by gender.
C. a block design, with blocks determined by age.
D. a block design, with blocks determined by gender
E. a double-blind completely randomized design.

3. Researchers were interested to know whether internal vehicle temperatures vary by outside temperatures. To evaluate this, temperature rise was measured continuously over a 60-minute period in a dark sedan on 16 different clear, sunny days with outside temperatures ranging from 72°F to 96°F. The researchers’ method of analysis is best described as

A. A census.
B. A survey.
C. An observational study.
D. A randomized comparative experiment.
E. A single-blind randomized comparative experiment.

4. Respondents to a randomly-distributed questionnaire answered the question, “Do you agree that nuclear weapons should never be used because they are immoral?” The study that uses the results of this questionnaire will most likely suffer from which type(s) of bias?

A. undercoverage
B. voluntary response
C. response
D. nonresponse
E. all of the above

5. A statistics teacher decides to compare this year’s students to all those she has taught over the history of the course. She will use the students’ examination performances as the method of comparison. Which of the following is true in this context?

A. The mean performance of this year’s students is a parameter.
B. The mean performance of this year’s students is a statistic.
C. The mean of all except this year’s students is a parameter.
D. The mean of all students is a statistic.
E. None of these is true.
Free Response

A political party’s position on a ballot is often determined by random selection. For the last 10 years, the Innovators have never had the coveted first position on the ballot; this position has always gone to either the Old-timers or Preservationists. The Innovators have cried foul. Use the random-number table below to test the likelihood of the disputed result. Clearly communicate your scheme, conduct 10 trials, and report your results.

32813 90372 59627 94240 12957
11832 26220 79684 53312 26114