# \<Clinical Epidemiology\>   Quiz 2

**Name_____          ID_____**

1. The major purpose of random assignment in a clinical trial is to:
a. Help ensure that study subjects are representative of the general population
b. Facilitate double blinding (masking)
c. Facilitate the measurement of outcome variables
d. Ensure that the study groups have comparable baseline characteristics
e. Reduce selection bias in the allocation of treatment

2. An advertisement in a medical journal stated that "2,000 subjects with sore throats were treated with our new medicine. Within 4 days, 94% were asymptomatic." The advertisement claims that the medicine was effective. Based on the evidence given above, the claim:
a. Is correct
b. May be incorrect because the conclusion is not based on a rate
c. May be incorrect because of failure to recognize a long-term cohort phenomenon
d. May be incorrect because no test of statistical significance was used
e. May be incorrect because no control or comparison group was involved

3. A randomized trial comparing the efficacy of two drugs showed a difference between the two (with a P value < 0.05). Assume that in reality, however, the two drugs do not differ. This is therefore an example of:
a. Type I error ($\alpha$ error)
b. Type II error ($\beta$ error)
c. $1 - \alpha$
d. $1 - \beta$
e. None of the above

Questions 4-10: For each measure described below, select the most appropriate numerical value from the following lettered options. Each option can be used once, more than once, or not at all.

A. 0.21       F. 20
B. 0.33       G. 70
C. 0.87       H. 80
D. 6.6        L. 96
E. 10         J. 98

4. A four-item memory test is assessed as a screening tool for dementia in the elderly. In a sample of 483 persons, 50 had dementia as defined by extensive neurologic and cognitive assessments. Of those with dementia, the screening test was positive for 40 persons. Of those without dementia, the screening test was negative for 416 persons. What is the prevalence (in %) of dementia in the study sample?

5. What is the sensitivity (in %) of the test described in question 1?

6. What is the specificity of the test described in question 1?

7. What is the positive predictive value (in %) of the test described in question 1?

8. What is the negative predictive value (in %) of the test in question 1?

9. What is the likelihood ratio for a positive finding of the test described in question 1?

10. What is the likelihood ratio for a negative finding of the test described in question 1?