In a recent study, 166 adults from the St.Louis area were recruited and randomly assigned to receive one of two treatments for a sinus infection. Half of the subjects received an antibiotic (amoxicillin) and the other half received a placebo.

Chapter

4

1. Describe how the researchers could have assigned treatments to the subjects if they wanted to use a completely randomized design.

**“FRAPPY”**

{Free Response AP Problem...Yay!}

The following problem is modeled after actual AP Statistics free response questions.

Your task is to generate a complete, concise statistical response in 15 minutes. You will be graded based on the AP rubric and will earn a score of 0-4. After grading, keep this problem in your binder for your AP Exam preparation.

**E P I**

**Total:\_\_/4**

1. All the subjects in the experiment had moderate, severe, or very severe symptoms at the beginning of the study. Describe one statistical benefit and one statistical drawback for using subjects with moderate, severe, or very severe symptoms instead of just severe symptoms.

**E P I**

1. At different stages during the next month, all subjects took the sino-nasal outcome test. After 10 days, the difference in the average test scores was *not* statistically significiant. In the context, explain what it means for the difference to be not statistically significant.

**E P I**

1. One possible way the researchers could have improved the study is to use a randomized block design. Explain how the researchers could have incorporated blocking in the design.

**E P I**