



“FRAPPY” {Free Response AP Problem...Yay!}

The following problem is taken from an actual Advanced Placement Statistics Examination. 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.

A growing number of employers are trying to hold down the costs that they pay for medical insurance for their employees. As part of this effort, many medical insurance companies are now requiring clients to use generic brand medicines when filling prescriptions. An independent consumer advocacy group wanted to determine if there was a difference, in milligrams, in the amount of active ingredient between a certain “name” brand drug and its generic counterpart. Pharmacies may store drugs under different conditions. Therefore, the consumer group randomly selected ten different pharmacies in a large city and filled two prescriptions at each of these pharmacies, one for the “name” brand and the other for the generic brand of the drug. The consumer group’s laboratory then tested a randomly selected pill from each prescription to determine the amount of active ingredient in the pill. The results are given in the following table.

ACTIVE INGREDIENT
(in milligrams)

| Pharmacy | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Name brand | 245 | 244 | 240 | 250 | 243 | 246 | 246 | 246 | 247 | 250 |
| Generic brand | 246 | 240 | 235 | 237 | 243 | 239 | 241 | 238 | 238 | 234 |

Based on these results, what should the consumer group’s laboratory report about the difference in the active ingredient in the two brands of pills? Give appropriate statistical evidence to support your response.

Scoring:

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Total: __/4