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.

Since Hill Valley High School eliminated the use of bells between classes, teachers have noticed that more students seem to be arriving to class a few minutes late. One teacher decided to collect data to determine whether the students' and teachers' wathces are displaying the correct time. At exactly 12:00 noon, the teacher asked 9 randomly selected students and 9 randomly selected teachers to record the times on their watches to the nearest half-minute. The ordered data showing minutes after 12:00 as positive values and minutes before 12:00 as negative values are shown in the table below.

Students	-4.5	-3.0	-0.5	0	0	0.5	0.5	1.5	5.0
Teachers	-2.0	-1.5	-1.5	-1.0	-1.0	-0.5	0	0	0.5

Scoring:

E P I   (a) Construct parallel boxplots using these data.

E P I   (b) Based on the boxplots in part (a), which of the two groups, students or teachers, tends to have watch times that are closer to the true time? Explain your choice.

E P I   (c) The teacher wants to know whether individual student's watches tend to be set correctly. She proposes to test $H_O: \mu = 0$ versus $H_A: \mu \neq 0$, where μ represents the mean amount by which all student watches differ from the correct time. Is this an appropriate pair of hypotheses to test to answer the teacher's question? Explain why or why not. <u>Do not carry out the test.</u>

Total:__/4