

1. Talking about a parameter when they should be referencing a statistic. Talking about a statistic when they should be referencing a parameter.
2. Not being specific enough about why they are making a decision in hypothesis testing--forgetting to say "given H_0 true, this is a rare event" or some other similar statement
3. Mistakenly "proving" H_0 when they are linking in the fail-to-reject- H_0 scenario. (For example: My p-value is high, therefore I fail to reject H_0 . There is enough evidence to say that the mean is still 10. Yuck.)
4. Not writing down what they see in their calculators when they are performing condition checks--especially for smaller samples and regression inference. It's not good enough to say there are no outliers; you have to SHOW there are none.
5. Failing to read the stem of the problem and writing an incorrect H_a .
6. Not even checking for independence and TOTALLY missing an obvious matched pairs situation.
7. No linkage. No linkage. No linkage. Stupidest mistake ever. Give me the context or get out of Dodge.

1. Not answering the prompt/question in context.
2. Not reading the entire question through first to determine if part of what they might write as a response would be better suited to another part of the question.
3. Constructing a hypothesis test when a confidence interval was specifically requested.
4. Answering a probability question with just the final numerical answer and not showing any work whatsoever.
5. Starting with Question #1 in the short-response section of the exam and working their way straight through to #6. None of my students have finished the exam when they chose this route.
6. Confusing a chi-square test for independence with one for homogeneity or vice versa.
7. Skipping any assumptions and/or conditions when conducting a hypothesis test or constructing a confidence interval.
8. Not checking for approximate normality of the data before making inferences.
9. Not labeling plots or graphs.
10. Offering opinion or conjecture without statistical relevance to the question.

bonus #11: failing to recognize a probability problem based on the binomial distribution.

If at all possible, download and print copies of the Chief Reader's comments from one of the previous exams. Those comments are always eye-openers to the cherubs.

A few ideas:

"Bald" answers (#'s with no work)

No context

No graph to check nearly normal (and the right number of graphs 1, 1 (mp) or 2)

Not checking conditions for inference statistics

A description of bias that does not relate to the response variable

Describing an experiment without random assignment of treatment (give the tiger shrimp problem and watch what happens! Or this fish tank from 97.)