

Last Minute AP Exam Review

Use the link on under Assignment 56 on the class website to fill in the missing information below.

According to the Observations of the Chief Reader: _____ continues to be a weakness. _____ and _____ in _____ are always required for a complete answer. In addition to being stated, assumptions must also _____. "Provide statistical evidence" means use _____.

AP Statistics Exam Tips for Students

The free response section counts for _____ % of your overall score. A score of _____ is full credit on a free response question. Describe the requirements of a Complete Response _____. Work as many problems as you can in the weeks leading up to the exam. Your biggest challenge will be _____.

During the Exam

Your _____ is meant to be your primary tool. Highlight _____ and _____. If you can eliminate more than one answer choice, you might _____.

On free-response questions:

Question 6. This Investigative Task _____ as much as any other question.

You don't have to answer a free-response question in _____.

Answer each question in _____. _____ and _____ your axes!

Don't refer to a _____ on your calculator that you haven't _____.

Say what needs _____, and _____.

Do not write directions for _____ on the exam!

If part of your answer is wrong, you _____. Don't give _____ solutions.

★ If you cannot get an answer to part of a question, _____ to use in the remaining parts of the problem.

Content-Specific Tips

I. Exploring Data

When you analyze one-variable data, always discuss _____, _____, and _____.

_____ > _____ sufficient to show that a distribution is skewed right.

_____ units are the same as the data units

Describe the effect on measure of center and spread if:

You add K to each element of the data set: _____

You multiply all numbers in the data set by k: _____

Treat the word "_____ " as a "four-letter word."

A correlation coefficient near 0 doesn't necessarily mean there are _____

between the two variables. A slope close to _____ or _____ doesn't mean strong correlation.

An _____ close to 1 or -1 doesn't mean the slope of the linear regression line is close to 1 or -1.

The relationship between b (slope of regression line) and r (coefficient of correlation) is:

Remember that $r^2 > 0$ doesn't mean _____.

For a residual plot, be sure to comment on:

- The _____ of positive and negative residuals
- The _____ of the residuals relative to the corresponding _____-values
- Whether the residuals appear to be _____

Remember properties of the least-squares regression line:

- Contains the point _____
- Minimizes the _____ (_____ deviations from the LSRL)

Residual = _____ - _____

Realize that _____ transformations can be practical and useful. Taking _____ cuts down the _____ of numbers.

II. Surveys, observational studies, and experiments

If each individual in the population has an equal probability of being chosen for a sample, it _____ follow that the sample is _____. _____ refers to how you obtain your sample; _____ is what you use in an experiment to assign subjects to treatment groups. They are not synonyms.

Well-designed experiments satisfy the principles of _____, _____, and _____

- _____ for the effects of _____ by comparing several treatments in the same environment.

Note: Control is not synonymous with "control group."

- _____ refers to the random allocation of _____ to _____, and not to the _____ of subjects for the experiment. Randomization is an attempt to "even out" the effects of _____ across the treatment groups. Randomization helps avoid _____.

- _____ means using a _____ number of subjects to reduce _____ in a study.

Note: In science, replication often means, "do the experiment again."

Distinguish the language of surveys from the language of experiments. _____:sampling::_____ :experiment
An experiment is _____ if neither the subjects nor the experimenters know who is receiving what treatment. A third party can keep track of this information.

III. Anticipating patterns: probability, simulations, and random variables

You need to be able to describe how you will perform a simulation in addition to actually doing it.

- Create a _____ between random numbers and outcomes.
- Explain how you will obtain _____ (e.g., move across the rows of the random digits table, examining pairs of digits), and how you will know _____.
- Make sure you understand the _____ of the simulation -- counting the number of trials until you achieve "success" or counting the number of "successes" or some other criterion.
- Are you drawing numbers with or without _____? Be sure to _____ this in your description of the simulation and to perform the simulation accordingly.

Independent events are _____ mutually exclusive (_____) events.

Two events, A and B, are _____ if the occurrence or non-occurrence of one of the events has no effect on the probability that the other event occurs.

Events A and B are _____ if they cannot happen simultaneously.

In the example Events A and B are _____, Events B and C are _____

Only the _____ are given on the AP exam.

Recognize a _____ setting when it arises. Be prepared to calculate its mean (expected value) and standard deviation. Explain the trick I showed you in class to do this with your calculator.

The four requirements for a chance phenomenon to be a binomial situation are:

1. _____
2. _____
3. _____
4. _____

Realize that a binomial distribution can be approximated well by a normal distribution if _____
_____. Specifically, _____.

A binomial random variable counts _____.

A geometric random variable counts _____.

IV. Statistical Inference

You need to know the difference between a _____, a _____, and _____.

On any confidence interval problem: FOLLOW THE PROCEDURE OUTLINED ON YOUR SUMMARY GUIDES.

Type I error: _____ when it is _____.

$$P(\text{Type I error}) = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Type II error: _____

Power of a test: _____

$$\text{Power} = \underline{\hspace{2cm}} - \underline{\hspace{2cm}}$$

You can increase the power of a test by _____ or _____

Read through and comment on the [Scoring Guidelines](#) and the Student [Performance Q and A](#) for 2008 below: