

Study Options:

[AP Classroom Practice Exams](#)

[Khan Academy Test Prep for AP Stats](#)

[Practice Multiple Choice with Feedback and Timer](#)

[Prior Years FRQ](#)

[Video of 2018 FRQ Solutions](#)

Desmos Review (multiple choice self grading) Code: RGP3YZ

Stats Exam Tips

1. Clearly communicate your understanding - Your AP score is a combination of your understanding of statistical content, but also how well you can communicate your understanding of the content. Don't expect AP graders to know what you are thinking – they are not Ms. Teacher; they don't know you. Write it down!
2. Always include context in your answers - Every one of the free response questions will be framed with a different context. Be sure that AP Exam graders can identify the context of the problem just by reading your response. Examples: "The distribution of **Robin's tips**", "convincing evidence that there is an association between **age-group and gender**" and "the y-intercept tells us the predicted **wait time when there are 0 customers in line**."
3. Be precise in your language and vocabulary - A big part of clearly communicating your understanding is to use the correct vocabulary. You will be marked down for using the incorrect or inappropriate vocabulary terms. Don't say "stratified" when you mean "block design". If you are not exactly sure on the correct vocabulary term, simply describe the idea.
4. Use appropriate notation - Notation matters! Make sure you know the correct notation for each statistic and for each parameter. You will be marked down for using incorrect notation.
Statistics: $\hat{p}$, $\bar{x}$, s .
Parameters: p , μ , σ
5. Manage your time - You have 90 minutes for 40 multiple choice questions (easy) and 90 minutes for 6 free response questions (harder). For the free response questions, plan to spend an average of 12 -13 minutes on each of questions #1 - 5 and then 25 minutes on question #6 - The Investigative Task.

6. Do not leave anything blank - There is no penalty for guessing on the multiple choice, so you should NEVER leave any blank. If you are struggling on a free response question, write down anything that you know...even if it's just a formula. There is a chance you could earn partial credit.
7. Know the formula sheet - You don't want to spend valuable exam time searching through the formula sheet looking for what you need.
8. Know your inference - Inference makes up the biggest part of the AP Statistics Exam. Be sure you are familiar with all of the confidence intervals and significance tests.
9. Be confident! - You have worked hard all year. You have spent time and energy reviewing for the exam. You are ready! Bring this confidence into the AP Exam with you in order to maximize your score. Good luck!!

How to CRUSH the FRQ's

Strategy #1: Know What to Expect

There are some general trends of "types" of questions to expect.

- 1-variable stats. Be prepared to describe or compare two distributions
- 2-variable stats. Be prepared to describe the relationship between two variables
- Sampling methods or experimental design. Be prepared to explain how a sample design might lead to bias, or how to explain the components of a good experiment
- Probability. Be prepared to handle traditional probability questions, normal distribution calculations, or a binomial distribution calculation.
- Significance test.
- Investigative Task. Check out Strategy #2.

Strategy #2: Survive the Investigative Task

- The Investigative Task (#6 on the free response) is worth 25% of the free response grade.
- New stuff! The Investigative Task will start with content that is very familiar to you, but at some point will venture into something you have not seen before. Use your statistical thinking and reasoning skills to make your way through the rest of the question.
- The Investigative Task tends to have 4 to 5 parts. Generally, the first one or two parts will cover content from the course and the second or third part will start the investigative portion of the question.

- The parts are scaffolded. The first few parts should be very accessible (easy) and then get progressively harder. The last part of the Investigative Task often requires you to look back holistically at all of your previous answers and summarize.

Strategy #3: Have a Plan

- You have 90 minutes for 6 questions. While this sounds like a long time, you will likely use all of the minutes. Plan to spend an average of 12-13 minutes for each of questions #1 - 5 and 25 minutes on the Investigative Task (#6).
- Take a practice exam! Do this all in one sitting and give yourself 90 minutes on the clock. This will help you to "feel" what the time constraint will be like on the actual AP Exam Day. It will also help you to decide which of the following two approaches to take.
- Two approaches:

(1) Do all six questions in order.

Use this approach if your practice exam went very smoothly and you know you will have enough time.

(2) 1 --> significance test --> 6 --> probability --> others.

If you know you will be short on time, you need to make sure you get points where you can get them. Start with question #1 (easy confidence builder), then move to the significance test (should also be easy). Next, find the "probability" question because this one tends to go faster than the others. Finally, do the others in the order of from most confident to least confident.

Strategy #4: Get All Your Points!

- Don't leave any blank. Even if you aren't sure how to solve a question, write down what you do know or think might be part of the solution.
- Make up an answer. Suppose you know that the answer from part (a) is needed to answer part (b), but you have no clue how to answer part (a). Make up an answer! Then use that answer to work through part (b). AP Exam graders are trained to grade each part based on student work from the previous part.
- Always use context. Context shows up on AP Exam rubrics over and over and over again. You might even be able to get some partial credit for using context even if some of your other calculations are totally incorrect.

Things to watch out for on the formula sheet.

1. There are a lot of formulas that WILL NEVER BE USED!

Here are a couple to erase from your memory:

$$s_p = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{(n_1 - 1) + (n_2 - 1)}} \quad s_{b_1} = \frac{\sqrt{\frac{\sum (y_i - \hat{y}_i)^2}{n - 2}}}{\sqrt{\sum (x_i - \bar{x})^2}}$$

2. Watch out for PARAMETERS vs. STATISTICS!

On page 3 of the formula sheet, students are given the standard deviation for several statistics. The standard deviation formulas are written in terms of parameters. When we are performing a significance test or constructing a confidence interval, we will often replace these parameters with statistics. Carefully consider whether a parameter or statistic is appropriate for each instance.

Be familiar with the notation on the formula sheet

- For linear regression, the formula sheet uses $y = b_0 + b_1x$ where most students are familiar with $y = a + bx$.
- For the binomial formula $(n \ k)$ means "n choose k" and is equivalent to nCk (combinations).
- For probability, "U" means union and can be replaced with "OR"
- For probability, "upside down U" means intersection and can be replaced with "AND"

Important formulas that are NOT on the formula sheet.

1. Formulas for mean and standard deviation when combining random variables (do not add standard deviations!!)
2. Expected counts for chi-square tests.
3. Specific formulas for test statistics and confidence intervals. You have to build these from the formulas on page 3.