

## Precalculus CP 1 Study Guide for the Final Exam

**Your Exam is on**  
**Monday, June 19<sup>th</sup>**  
**from 10:15-11:45**

The final exam will consist of all the material we've covered during the second semester. Below is a list of topics that you will be asked to know on the exam (categorized by chapter):

### Chapter 2: Polynomial and Rational Functions

- Quadratic Functions
- Polynomial Functions of Higher Degree
- Imaginary Numbers
- Polynomial and Synthetic Division
- Zeros of Polynomial Functions
- Rational Functions
- Solving nonlinear inequalities using sign charts

### Chapter 2 Tangent: Limits

- Algebraic Limits
- Finding a horizontal asymptote
- Finding a vertical asymptote and using limits to justify
- Using a graph to find limits visually

### Chapter 3: Exponential & Logarithmic Functions

- Properties of Logs
- Solving exponential and log equations
- Application Problems- growth and decay

### Chapter 7: Systems of Equations

- Solving linear equations in two and three variables
- Solving non-linear Equations in two variables
- Application Problems
- Solving linear inequalities in two variables via graphing
- Solving non-linear inequalities in two variables
- Application Problems

### Chapter 8: Matrices

- Use matrices with basic properties including addition, subtraction, scalar multiplication and matrix multiplication
- Set up a matrix equation given a system of equations
- Use matrices to solve application problems

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### Chapter 9: Binomial Theorem, Counting, & Probability

- Solving Problems involving the Binomial Theorem and its applications
- Solving Counting Problems (Combinations and Permutations)
- Solving Probability Problems

### **Suggestions for how to prepare for the exam:**

1. Begin preparing soon! Begin preparing soon! Begin preparing soon!
2. Find a study partner and make a schedule of times when you will meet and the sections you will cover. Don't try to tackle too much in one day... spread it out!
3. Review past quizzes and test. Cover up the solution and redo the question again. Don't just look over the solution- actually REDO the problem to be sure you can do it. THIS IS THE BEST WAY TO PREPARE FOR THE EXAM!
4. Work on the review problems that we go over in class. If you get stuck on any problems that you attempt, look back at the book/class notes or meet with your study partner and see if you can get it. If you are still experiencing difficulties, please come see me as soon as possible.
5. Prepare a formula sheet. Please use the one provided by Mr. Baroody- it will have all the formulas I have typically given you this semester. You can write any information you want on the other side. This includes notes, old problems, and formulas. The sheet must be handwritten. You may work with another student, but you may not simply make a photocopy of another student's sheet.
6. Make sure to get at least seven hours of sleep before the exam. Do not stay up late and cram. Study well beforehand so that you are not in a panic the night before. Make sure to eat breakfast the day of the exam so you have energy and can stay focused!

### **Pre-Calculus Morning of the Exam Checklist**

\_\_\_\_\_ **GRAPHING CALCULATOR (I will NOT provide you with one!)**

\_\_\_\_\_ **SHARPENED PENCILS**

\_\_\_\_\_ **YOUR FORMULA SHEET**

**(one side of an 8.5" x 11" sheet of paper, this will be collected with the exam)**

### Exam Format:

- about 5-10 short answer questions (show all your work)
- about 40 multiple choice questions