

## **MATHEMATICS S.A.T. I PREP**

Prerequisite: No prerequisite required but those students interested in taking the SAT test should take this course.

Meeting time: every other day, one semester, .5 credit

Placement: grade 12 (first semester), grade 11 (second semester), Level III

This course is designed to enable first semester Seniors and second semester Juniors to improve their test-taking abilities and to provide them with the tools necessary to understand the test results.

Using a diagnostic test to identify areas of weakness, this course will cover test-taking strategies, test content, and question-response format. Due to the fact that calculators may be used on the SAT, students will have the opportunity to improve their understanding of their calculator.

After the scheduled SAT exam, an introduction to statistical analysis will be presented. Using measures of central tendency and visual interpretation of data, students will explore interdisciplinary activities.

### **COURSE GOALS AND OBJECTIVES**

1. To familiarize students with the format of the standardized S.A.T.
2. To offer effective test-taking strategies.
3. To reinforce previously learned skills.
4. To explore the use of technology (calculator).
5. To provide the students with an opportunity to learn about measures of central tendency and visual interpretations of data.
6. To develop a student's understanding of how the scores may be interpreted by schools of higher learning.

## **MATHEMATICS S.A.T. I PREP**

(Agawam High School Academic Expectations: 1,3,4,5,6)

### I. SAT I Overview

#### A. How To Prepare

1. Description of the SAT I Reasoning Test
2. Three types of SAT I questions
  - a. Multiple-Choice
  - b. Student-Produced Response (stress appropriate rational number form)
3. Review concepts of arithmetic, algebra and geometry.

3. Test taking strategies
  - a. General Strategies
    - (1) Technology (know your calculator and how it functions)
    - (2) Become familiar with the directions ahead of time
    - (3) Pace yourself
    - (4) Speed comes from practice
    - (5) Keep track of your place on the answer sheet
    - (6) Do not assume that your answer is correct just because it appears among the choices
    - (7) Remember that all correct answers are equal in point value
    - (8) Be aware that incorrect answers are not equal in point value
    - (9) Be cautious about making wild guesses on multiple choices
  - b. Specific Strategies
    - (1) Sub-in (of all the strategies, this is the most important)
    - (2) Backfill
    - (3) Always scan the answers
    - (4) Do not waste time doing complicated arithmetic
    - (5) Fill in what is known to help you find what is unknown
    - (6) Recognize "Figure not drawn to scale" as a warning
    - (7) Test the extremes
    - (8) Do not be misled by generic answers
    - (9) Do the math (technology?)

## B. Format

1. Diagnostic Test
  - a. Arithmetic
  - b. Algebra
  - c. Geometry
  - d. Miscellaneous
2. Analysis of Answers (starting with those problems that presented the most difficulties)
3. Test on types of questions and specific practice
  - a. Multiple-Choice
  - b. Student-Produced Response (stress appropriate rational number form)

## II. A Look at Statistics

### A. Measures of Central Tendency

1. Mean
2. Median
3. Mode

### B. Frequency Distribution

1. Order Data
  - a. Tally Data
  - b. Data Intervals
2. Identify Measures of Central Tendency

### C. Visual Interpretation of Data (Student Generated)

1. Histogram
2. Line Graph
3. Circle Graph
4. Scatter diagram

### D. Normal Distribution

1. Standard Deviation
2. Range
3. Variance

### E. Interdisciplinary Activities

1. Sociology Surveys
2. Guidance (Test Results)

## RESOURCES

Textbook:

[Andres and Bernstein. Preparing for the SAT Mathematics. 2<sup>nd</sup> Edition, New York, New York; Amsco School Publishing, Inc, 2006.](#)

## ASSESSMENT STRATEGIES

- Class participation, written and oral communication
- Class work
- Homework
- Class projects and presentations
- Notebooks/Portfolios
- Quizzes
- Tests
- School Wide and Departmental Rubrics