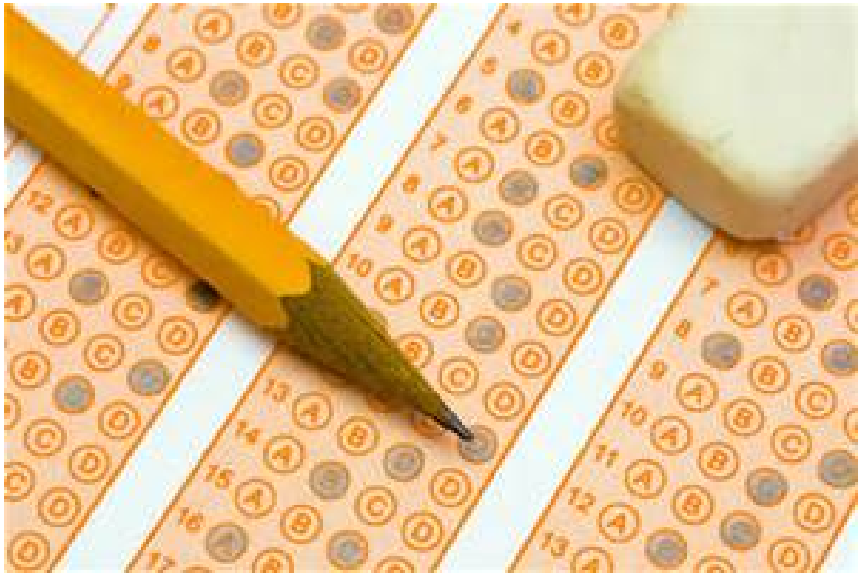
PATERSON PUBLIC SCHOOLS
Preparing All Children for College and Career

SAT PREP Curriculum



MATHEMATICS

Unit II

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Course Description

According to the College Board, the Math test of the redesigned SAT (2016) will assess students' readiness for college and career. Specifically, the Math test will assess the students' fluency with procedural steps, conceptual knowledge, and representational skills. The overarching goal of the New SAT is to ensure that the students are able to analyze real-life problems and use appropriate strategies to solve them.

The SAT Prep course (Math) will cover the Mathematics part during Marking Periods I and III. For ease of understanding and pacing, there will be a total of two units of Math, one in each Marking Period. In this course, students will explore how Mathematics as a tool is used to understand and solve problems in Physical Science, Social Science, Medical Science, History, Business, and Technology. They will be expected to analyze a given scenario, then abstract, develop mathematical models using multiple representations of the quantitative information, and answer related questions. The quality of students' responses to such real-life problems, and therefore their score, will depend to a great extent on their cognitive skills, use of effective mathematical processes, reasoning, critical thinking skills, and thinking time.

Regardless of the entry level of a student into this course, the teacher will teach the units providing enough opportunities for each student to practice problem solving in groups and individually. In addition to daily homework, the teacher will provide study guides, including time management strategies and web links for additional problems after each marking period. A mid-term exam will be administered using problems covered during the first marking period. At the end of the second Marking period, students will have the opportunity to take a full length sample SAT as the final exam for the course.

Assessment results from this course may be used to evaluate a student's quantitative skills for placement into higher level Math courses or as a graduation requirement.

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Pacing Chart			
Unit 2	February 4 – March 5	Algebra, Functions, and Patterns	Instruction: 4 weeks
	March 6 – April 8	Data Analysis, Statistics, and Probability	Instruction: 4 weeks
Review & Final Exam	April 11 – April 15	Comprehensive Final Exam on Units 1 and 2	Remediation/Enrichment and Assessment: 1 week

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Educational Technology

Standards

8.1.8.A.5, 8.1.8.A.4, 8.1.8.E.1, 8.2.8.B.1, 8.1.8.D.1

- **Technology Operations and Concepts**
  - Select and use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems.

- **Technology Operations and Concepts**
  - Generate a spreadsheet to calculate, graph, and present information.

- **Research and Information Literacy**
  - Gather and analyze findings using data collection technology to produce a possible solution for a content-related or real-world problem.

- **Design: Critical Thinking, Problem Solving**
  - Design and create a product that addresses a real-world problem using the design process and working with specific criteria and constraints.

- **Digital Citizenship**
  - Model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics

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21st Century Life & Career Skills

Standards:

9.1.8.A.1, 9.3.8.B.3, 9.3.8.B.17, 9.3.8.B.12, 9.1.8.A.2

- **Critical Thinking and Problem Solving**
  - Develop strategies to reinforce positive attitudes and productive behaviors that impact critical thinking and problem-solving skills.

- **Career Exploration**
  - Evaluate personal abilities, interests, and motivations and discuss how they might influence job and career selection.

- **Career Exploration**
  - Recognize that an individual's online behavior (e.g., social networking, photo exchanges, video postings) may impact opportunities for employment or advancement.

- **Career Exploration**
  - Explain how personal behavior, dress, attitudes, and other choices can impact the success or failure of a job applicant.

- **Critical Thinking and Problem Solving**
  - Implement problem-solving strategies to solve a problem in school or the community.

- **Critical Thinking and Problem Solving**
  - Relate academic achievement, as represented by high school diplomas, college degrees, and industry credentials, to employability and to potential level of income.

Link: http://www.nj.gov/education/aps/cccs/career/

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Differentiated Instruction

Accommodate Based on Students Individual Needs: Strategies

Time/General	Processing	Comprehension	Recall
• Extra time for assigned tasks • Adjust length of assignment • Timeline with due dates for reports and projects • Communication system between home and school • Provide lecture notes/outline	• Extra Response time • Have students verbalize steps • Repeat, clarify or reword directions • Mini-breaks between tasks • Provide a warning for transitions • Partnering	• Precise step-by-step directions • Short manageable tasks • Brief and concrete directions • Provide immediate feedback • Small group instruction • Emphasize multi-sensory learning	• Teacher-made checklist • Use visual graphic organizers • Reference resources to promote independence • Visual and verbal reminders • Graphic organizers
Assistive Technology	**Tests/Quizzes/Grading**	**Behavior/Attention**	**Organization**
• Computer/whiteboard • Tape recorder • Video-Tape	• Extended time • Study guides • Shortened tests • Read directions aloud	• Consistent daily structured routine • Simple and clear classroom rules • Frequent feedback	• Individual daily planner • Display a written agenda • Note-taking assistance • Color code materials

Enrichment

Accommodate Based on Students individual Needs: Strategies

- Evaluate Vocabulary
- Elevated Text Complexity
- Learning Centers
- Individual Response Board
- Open-ended activities
- Community/Subject expert mentorships

Assessments

Suggested Formative/Summative Classroom Assessments

Describe Learning Vertically
Identify Key Building Blocks
Make Connections (between and among key building blocks)
Short/Extended Constructed Response Items
Multiple-Choice Items (where multiple answer choices may be correct)
Drag and Drop Items
Use of Equation Editor
Quizzes
Journal Entries/Reflections/Quick-Writes
Accountable talk
Projects
Portfolio
Observation
Graphic Organizers/ Concept Mapping
Presentations
Role Playing
Teacher-Student and Student-Student Conferencing
Homework

Interdisciplinary Connections

Students will be expected to:

- Explore interdisciplinary contexts and solve a variety of real-life problems from Physical Sciences, Social Sciences, Medical Sciences, Business, and Technology.
- Recognize the underlying mathematical concepts while analyzing different contextual information.
- Make connections between concepts.
- Communicate mathematically while discussing scenarios from various disciplines.
- Demonstrate their computational and procedural skills while providing explanations and interpretations of solutions to problems from various disciplines.

The following examples from the College Board (https://collegereadiness.collegeboard.org/sample-questions/math/calculator-permitted/1) indicate a wide range of real-life scenarios students may expect to see on the redesigned SAT (2016).

Example 1: Question Difficulty: EASY

Objective: Students must first read and understand statistics calculated from a survey that was conducted. Then, students must apply their knowledge about the relationship between sample size and subject selection on margin of error.

A research assistant randomly selected 75 undergraduate students from the list of all students enrolled in the psychology-degree program at a large university. She asked each of the 75 students, "How many minutes per day do you typically spend reading?" The mean reading time in the sample was 89 minutes, and the margin of error for this estimate was 4.28 minutes. Another research assistant intends to replicate the survey and will attempt to get a smaller margin of error. Which of the following samples will most likely result in a smaller margin of error for the estimated mean time students in the psychology-degree program read per day? **Answer: C**

Select an Answer

A. 40 randomly selected undergraduate psychology-degree program students

B. 40 randomly selected undergraduate students from all degree programs at the college

C. 300 randomly selected undergraduate psychology-degree program students

D. 300 randomly selected undergraduate students from all degree programs at the college

Example 2: Question Difficulty: MEDIUM

Objective: Students must use the unit rate (data-transmission rate) and the conversion between gigabits and megabits as well as conversions in units of time.

A typical image taken of the surface of Mars by a camera is 11.2 gigabits in size. A tracking station on Earth can receive data from the spacecraft at a data rate of 3 megabits per second for a maximum of 11 hours each day. If 1 gigabit equals 1,024 megabits, what is the maximum number of typical images that the tracking station could receive from the camera each day? **Answer: B**

Select an Answer

A. 3

B. **10**

C. 56

D. 144

Example 3: Question Difficulty: HARD

Objective: Students must understand the zeros of a polynomial function and how they are used to construct algebraic representations of polynomials.

The function f is defined by $f(x) = 2x^3 + 3x^2 + 8$ where c is a constant. In the xy-plane, the graph of f intersects the x-axis at the three points (-4, 0), (½, 0) and (p, 0) What is the value of c? **Answer: –18**

Common Core State Standards – Mathematics

The standards listed below from the New Jersey Common Core State Standards (http://njcore.org/standards/ccss/7716#) will be covered in this course.

Number and Quantity

- CCSS.Math.Content.HSN-RN
- CCSS.Math.Content.HSN-Q
- CCSS.Math.Content.HSN-VM
  - Rewrite expressions involving radicals and rational exponents using the properties of exponents.
  - Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
  - Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
  - Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes.
  - Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum.
  - Add and subtract 2 x 2, 3 x 3, 4 x 4 … matrices.

Algebra

- CCSS.Math.Content.HSA-SSE
- CCSS.Math.Content.HSA-APR
- CCSS.Math.Content.HSA-CED
- CCSS.Math.Content HSA-REI
  - Interpret expressions that represent a quantity in terms of its context.
  - Use the structure of an expression to identify ways to rewrite it.
  - Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.
  - Factor a quadratic expression to reveal the zeros of the function it defines.
  - Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.
  - Use the properties of exponents to transform expressions for exponential functions.

- Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.
- Rewrite simple rational expressions in different forms; write $^{a(x)}/_{b(x)}$ in the form $q(x) + {}^{r(x)}/_{b(x)}$, where a(x), b(x), q(x), and r(x) are polynomials with the degree of r(x) less than the degree of b(x), using inspection and long division.
- Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.
- Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
- Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.
- Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.
- Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
- Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
- Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically.
- Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

Functions

- CCSS.Math.Content.HSF-IF
- CCSS.Math.Content.HSF-BF
- CCSS.Math.Content.HSF-LE

- Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
- Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.
- Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.
- Graph linear and quadratic functions and show intercepts, maxima, and minima.
- Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.
- Use the properties of exponents to interpret expressions for exponential functions.

- Write a function that describes a relationship between two quantities.
- Identify the effect on the graph of f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.
- Read values of an inverse function from a graph or a table, given that the function has an inverse.
- Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.
- Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.
- Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).
- Interpret the parameters in a linear or exponential function in terms of a context.

Geometry

- CCSS.Math.Content.HSG-SRT
- CCSS.Math.Content.HSG-GPE
- CCSS.Math.Content.HSG-GMD
- CCSS.Math.Content.HSG-MG
  - Prove (understand) that all circles are similar (and apply this property to solve problems.
  - Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.
  - Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.
  - Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.
  - Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.
  - Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).
  - Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
  - Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula
  - Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.
  - Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder)

- Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).

Statistics and Probability

- **CCSS.Math.Content.HSS-ID**
- **CCSS.Math.Content.HSS-IC**
- **CCSS.Math.Content.HSS-CP**
  - Represent data with plots on the real number line (dot plots, histograms, and box plots).
  - Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.
  - Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.
  - Fit a function to the data; use functions fitted to data to solve problems in the context of the data.
  - Fit a linear function for a scatter plot that suggests a linear association.
  - Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.
  - Distinguish between correlation and causation.
  - Understand statistics as a process for making inferences about population parameters based on a random sample from that population.
  - Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation.
  - Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.
  - Evaluate reports based on data.
  - Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.
  - Understand the conditional probability of A given B as P(A and B)/P(B), and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B.
  - Apply the Addition Rule, P(A or B) = P(A) + P(B) - P(A and B), and interpret the answer in terms of the model.
  - Apply the general Multiplication Rule in a uniform probability model, P(A and B) = P(A)P(B|A) = P(B)P(A|B), and interpret the answer in terms of the model.
  - Use permutations and combinations to compute probabilities of compound events and solve problems.

Grade: 9-12	Unit 2	Topics: Algebra and Functions and Statistics and Probability

Common Core State Standards (CCSS)

Unit 2
Algebra and Functions
CCSS.Math.Content.HSA-SSE
CCSS.Math.Content.HSA-APR
CCSS.Math.Content.HSA-CED
CCSS.Math.Content.HSA-REI
CCSS.Math.Content.HSF-IF
CCSS.Math.Content.HSF-BF
CCSS.Math.Content.HSF-LE
Statistics and Probability
CCSS.Math.Content.HSS.ID
CCSS.Math.Content.HSS.IC
CCSS.Math.Content.HSS.CP

NJDOE Student Learning Objective	Essential Questions	Skills, Strategies & Concepts	Sample Activities	Resources
1. Interpret terms, factors, coefficients, and expressions (including complex linear and exponential expressions) in terms of context. (A.SSE.1)	• How to assign meanings to each term and their coefficients in an expression using information from a context?	- Analyzing contextual information - Connecting expressions and their terms with contextual information	Read and verbalize the context in a given word problem Write information that may help solve the problem Write mathematical expressions to represent the contextual information.	**Use the following resources provided by the College Board:** 1. Published SAT book of the College Board 2. Visit their official sites https://professionals.collegeboard.com/k-12/prepare/srp/free
2. Model and describe constraints with linear equations and inequalities and systems of equations and/or inequalities to determine if solutions are viable or non-viable. (A.CED.3, A.REI.1)	• How to choose and define variables to represent the unknown quantities in a word problem? • What are the steps in writing linear models from context? • How to solve linear equations, inequalities, and systems? • How to check the validity	- Analyzing contextual information - Defining variables in terms of context - Writing linear models from context - Understanding different procedures to solve linear equations, inequalities, and systems - Checking the reasonableness of	Read and verbalize the context in a given word problem Write information that may help solve the problem Draw a diagram to represent the context and label it using the known and unknown quantities. Define variables for the unknown quantities. Solve equations and	The Official SAT Question of the Day™ Official SAT Practice Test https://sat.collegeboard.org/practice/sat-skills-insight https://sat.collegeboard.org/SAT/public/pdf/getting-ready-for-the-sat.pdf

NJDOE Student Learning Objective	Essential Questions	Skills, Strategies & Concepts	Sample Activities	Resources
	and reasonability of solutions?	solutions	inequalities and check solutions.	https://sat.collegeboard.org/practice (includes free practice tests from Khan Academy)
3. Graph equations, inequalities, and systems of inequalities in two variables and explain that the solution to an equation is all points along the curve, the solution to a system of linear functions is the point of intersection, and the solution to a system of inequalities is the intersection of the corresponding half-planes. (A.REI.10, A.REI.11, A.REI.12)	• How to graph linear equations, inequalities, and systems in two variables? • How to locate the solutions or solution regions on the graphs of linear equations, inequalities, and systems in two variables?	- Graphing equations, inequalities, and systems in two variables - Locating the solutions or solution regions and justifying the solutions.	Use graph paper to graph equations, inequalities, and systems following a table of values or the quick graphing method. Solve equations algebraically and locate the solutions on their graphs. Choose an ordered pair from the solution regions in the graph of a system of inequalities and check its validity for the inequalities.	

NJDOE Student Learning Objective	Essential Questions	Skills, Strategies & Concepts	Sample Activities	Resources
4. Explain and interpret the definition of functions including domain and range and how they are related; correctly use function notation in a context and evaluate functions for inputs and their corresponding outputs. (F.IF.1, F.IF.2)	• How to use the domain and range of a relationship to justify if the relationship is a function?	- Differentiating between the domain and range of a relationship. - Differentiating between a relation and function	Plot different sets of *x*- and *y*-values and justify if they follow the function rule.	
5. Manipulate expressions using factoring, completing the square and properties of exponents to produce equivalent forms that highlight particular properties such as the zeros or the maximum or minimum value of the function. (A.SSE.3)	• How to represent quadratic equations in different forms? • How to make connections between different forms of quadratic equations and explain the minimum or maximum and zeros of the corresponding functions.	- Completing the square - Expanding a binomial square - Interpreting quadratic equations and their functions	Analyze the square of a binomial, such as $(a + b)^2 = a^2+2ab + b^2$, specifically the middle term. Reconstruct the binomial square when one or two factors of the middle term, that is, either 2, *b*, or *2b* and b^2 are missing.	

NJDOE Student Learning Objective	Essential Questions	Skills, Strategies & Concepts	Sample Activities	Resources
6. Perform addition, subtraction and multiplication with polynomials and relate it to arithmetic operations with integers. (A.APR.1)	• How to add, subtract, and multiply polynomials?	- Performing arithmetic operations with polynomials.	Practice simple arithmetic operations with a variety of polynomials. Write a few questions on add/subtract/multiply polynomials on different papers. Write the corresponding answers of the sum, difference, or product of the polynomials on a separate paper. Cut out the questions and the answers into several pieces containing parts of the questions and answers. Ask the students to connect the questions with the correct answers.	
7. Create linear and quadratic equations that represent a relationship between two or more variables. Graph equations on the	• What are the steps in writing linear and quadratic equations from word problems?	- Analyzing contextual information - Writing linear and quadratic equations from	Read the given word problem and write the known and unknown quantities.	

NJDOE Student Learning Objective	Essential Questions	Skills, Strategies & Concepts	Sample Activities	Resources
coordinate axes with labels and scale. (A.CED.2)	• How to graph and label linear and quadratic equations using scale?	word problems	Transform contextual information to algebraic expressions using variables for the unknown quantities.	
8. Solve quadratic equations in one variable using a variety of methods [including inspection (e.g. $x^2 = 81$), factoring, completing the square, and the quadratic formula]. (A.REI.4)	• How to apply different methods to solve quadratic equations?	- Finding square root of both sides of an equation. - Completing the square - Using the quadratic formula - Finding the roots of a quadratic equation from its graph - Knowing that the root(s), x-intercept(s), and solution(s) of any function have the same meaning.	Square root both sides of the equation $(x-3)^2 = 81$ and solve for x. Complete the square of the equation $x^2 -6x= 72$ and solve for x. Use the quadratic formula to solve the equation $x^2 -6x= 72$. Compare the results from the three activities.	
9. Identify the effects of translations [*f(x) + k, k f(x), f(kx),* and *f(x + k)]* on	• How to determine the effects of translations of the graph of a function?	- Translating the graph of a function horizontally and vertically	Use a graphing calculator to analyze the effects of adding, subtracting, and	

NJDOE Student Learning Objective	Essential Questions	Skills, Strategies & Concepts	Sample Activities	Resources
a function, find the value of *k* given the graphs. (F.BF.3)		- Translating the graph of a function by scalar multiplication of its x- and y-value - Evaluating the amount by which a graph has been translated.	multiplying a constant with the *x*- and y-value of a function.	
10. Use everyday language to explain independence and conditional probability in real-world situations. (S.CP.5)	• What does it mean for a probability to be conditional?	- Explaining if the outcome of an event is independent or dependent - Explaining the difference between the sample space of an independent and a dependent event	Use a bag of marbles of different colors (or different color pencils of the same size) and ask the students to explain the meaning of an outcome to be dependent or independent when a marble is drawn with and without replacement.	
11. Find the conditional probability of *A* given *B* as the fraction of *B*'s outcomes that also belong to *A* and apply the addition [*P(A* or *B) = P(A)*	• How to compute conditional probabilities?	- Computing probability of an independent event - Computing probability of a dependent event	Use a variety of practical situations in word problems and ask the students to generate a table of values for the probability of an event A given B or B given	

NJDOE Student Learning Objective	Essential Questions	Skills, Strategies & Concepts	Sample Activities	Resources
+ *P(B)* – *P(A* and *B)*] rule of probability in a uniform probability model; interpret the results in terms of the model. (S.CP.6, S.CP.7)			A. Then ask them to compute the conditional probabilities using the formula.	
12. Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. (S.IC.4)	• How to compute/estimate a population mean from a set of survey data? • How to use the margin of error to justify if the sample size in a random sampling is too small?	- Understanding random sampling - Estimating population mean from a set of survey data - Understanding minimum sampling size in a random sampling	Analyze sets of sample data and compute/estimate the population mean of each set Compute the margin of error for each set of data.	
13. Represent data on the real number line (i.e. dot plots, histograms, and box plots) and use statistics to compare and interpret differences in shape,	• How to compare the graphs of different sets of statistical data and explain the differences in terms of shape, mean, median, and standard	- Analyzing the statistics of different sets of data - Interpreting graphs for shape, mean, median, and standard deviation of the	Use different sets of statistical data and develop histograms, dot plots, and box plots. Compare and explain the	

NJDOE Student Learning Objective	Essential Questions	Skills, Strategies & Concepts	Sample Activities	Resources
center, and spread in the context of the data (account for effects of outliers). (S.ID.1, S.ID.2, S.ID.3)	deviation?	corresponding statistical data.	differences in their shape, mean, median, and standard deviation.	
14. Distinguish between correlation and causation in a data context. (S.ID.9)	• How do correlation and causation differ in a relation between two variables?	- Understanding correlation - Understanding causation	Use sample data from word problems to compute correlation between the related variables. Discuss if the change in the independent variable is the only cause of any changes in the dependent variable.	

Unit Vocabulary

- Absolute Value Function
- Binomial
- Combination
- Constant
- Constant rate
- Correlation
- Cubic
- Data
- Direct Variation
- Domain
- Equation
- Exponential Form
- Expression
- Function
- Horizontal lines
- In terms of
- Intersection
- Interval
- Like terms
- Linear
- Linearly
- Line segment
- Margin of error
- Maximum
- Minimum
- Monomial
- Multiplicity
- Ordered pair
- Parabola
- Parallel lines
- Perpendicular lines
- Polynomial
- Pythagorean Theorem
- Quadratic
- Random sampling
- Sequence
- Trinomial
- Union
- x-Intercept
- y-Intercept
- xy-plane
- Zeroes of a function

RUBRICS

The Redesigned SAT Scoring Guidelines and Rubrics

According to the College Board (https://www.collegeboard.org/delivering-opportunity/sat/higher-ed/scores), the redesigned SAT will have a scale score of 400 points to 1600 points equally distributed over two main sections, (1) Evidence-Based Reading and Writing and (2)Mathematics.

The Math part will have a total of 57 problems with the following break-up

Section	Number of Questions	Time Allowed	Calculator Allowed
1	37	55 minutes	YES
2	20	25 minutes	NO
Total	57 Questions	80 minutes	

Rubrics: NOTE: Every correct response will receive a credit, but there will be no deductions for wrong or blank responses.

Type of Question	Number of Questions	Points Worth	Total Points
Multiple-Choice	45	1 point	45
Grid-in	11	1 point	11
Grid-in-Extended Response	1	4 points	4
Total	57 Questions		60 points