

Alignments of PSAT/NMSQT Skill Categories and State Standards

PSAT/NMSQT Skill Category and Description of Skills	Alabama Math: Course of Study 2003		
	Course/ Level	Standard	Standard ID
Algebra and Functions Solve problems using algebraic expressions and symbols to represent relationships, patterns and functions of different types.	Algebra I	Finding the slope of a line from its equation or by applying the slope formula	2.1
	Algebra I	Determining the equations of linear functions given two points, a point and the slope, tables of values, graphs, or ordered pairs	2.2
	Algebra I	Graphing two-variable linear equations and inequalities on the Cartesian plane	2.3
	Algebra I	Finding the range of a function when given its domain	3.1
	Algebra I	Identifying situations that are modeled by common relations, including $x = \text{constant}$, $y = \text{constant}$, $y = x$, $y = \text{square root of } x$, $y = x^2$, and $y = x $	4.1
	Algebra I	Dividing by a monomial	5.1
	Algebra I	6. Factor binomials, trinomials, and other polynomials using GCF, difference of squares, perfect square trinomials, and grouping.	6
	Algebra I	Writing the solution of an equation or inequality in set notation	7.1
	Algebra I	Graphing the solution of an equation or inequality	7.2
	Algebra I	Modeling real-world problems by developing and solving equations and inequalities, including those involving direct and inverse variation	7.3
	Algebra I	Modeling real-world problems by developing and solving systems of linear equations and inequalities	8.1
	Algebra I	Approximating solutions graphically and numerically	9.1
	Algebra II	Identifying the domain and range of a relation given its graph, a table of values, or its equation, including those with restricted domains	3.1
	Algebra II	Identifying real-world situations corresponding to families of functions	3.2
	Algebra II	Using completing the square, the zero product property, and the quadratic formula	4.1
Algebra II	Writing an equation when given its roots or graph	5.1	

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Algebra and Functions Solve problems using algebraic expressions and symbols to represent relationships, patterns and functions of different types.	Algebra II	Graphing a function when given its equation	5.2
	Algebra II	Determining the nature of the solutions of a quadratic equation	5.3
	Algebra II	Determining the maximum or minimum values of quadratic functions both graphically and algebraically	5.4
	Algebra II	Determining the inverse of a function or a relation	6.1
	Algebra II	Performing operations on polynomial and rational expressions containing variables	6.2
	Algebra II	Constructing graphs by analyzing their functions as sums or differences	6.3
	Algebra II	Solving equations using laws of exponents, including rational and irrational exponents	7.1
	Algebra II	Expressing the solution of an equation, inequality, or applied problem as a graph on a number line or by using set or interval notation	7.2
	Algebra II with Trigonometry	Identifying the domain and range of a relation given its graph, a table of values, or its equation, including those with restricted domains	3.1
	Algebra II with Trigonometry	Identifying real-world situations corresponding to families of functions	3.2
	Algebra II with Trigonometry	Using the zero product property, completing the square, and the quadratic formula	4.1
	Algebra II with Trigonometry	Deriving the quadratic formula	4.2
	Algebra II with Trigonometry	Generating an equation when given its roots or graph	5.1
	Algebra II with Trigonometry	Graphing a function when given its equation	5.2
	Algebra II with Trigonometry	Determining the maximum or minimum values of quadratic functions both graphically and algebraically	5.3

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	Course/ Level	Standard	Standard ID
Algebra and Functions Solve problems using algebraic expressions and symbols to represent relationships, patterns and functions of different types.	Algebra II with Trigonometry	Applying functions to real-world problems	5.4
	Algebra II with Trigonometry	Determining the inverse of a function or a relation	6.1
	Algebra II with Trigonometry	Performing operations on polynomial and rational expressions containing variables	6.2
	Algebra II with Trigonometry	Constructing graphs by analyzing their functions as sums, differences, or products	6.3
	Algebra II with Trigonometry	Solving equations using laws of exponents, including rational and irrational exponents	7.1
	Algebra II with Trigonometry	Expressing the solution of an equation, inequality, or applied problem as a graph on a number line or by using set or interval notation	7.2
	Algebra II with Trigonometry	Solving word problems involving real-life situations	8.2
	Algebra III with Statistics	2. Solve problems involving maximum or minimum values of functions by using linear programming procedures.	2
	Algebra III with Statistics	Determining equations of conic sections from their graphs	3.1
	Algebra III with Statistics	Approximating zeros using Descartes' Rule of Signs and the bisection method	4.1
Algebra III with Statistics	Describing the end behavior of a polynomial function given its degree and leading coefficient	4.2	
Algebra III with Statistics	5. Solve systems of linear and quadratic equations and inequalities.	5	
Algebra III with Statistics	6. Approximate solutions of trigonometric and exponential equations from tables and graphs.	6	

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	Course/ Level	Standard	Standard ID
Algebra and Functions Solve problems using algebraic expressions and symbols to represent relationships, patterns and functions of different types.	Algebraic Connections	Generating, manually or with technological tools, graphs and tables related to personal finance and economics	1.1
	Algebraic Connections	2. Solve problems using direct, inverse, and joint variation.	2
	Algebraic Connections	3. Use formulas or equations of functions to calculate outcomes of exponential growth or decay.	3
	Algebraic Connections	Graphing information from tables, equations, or classroom-generated data to model consumer costs and to predict future outcomes	5.1
	Algebraic Connections	6. Use the extreme value of a given quadratic function to solve applied problems.	6
	Algebraic Connections	7. Make predictions based upon tables or graphs from societal contexts.	7
	Geometry	1. Determine the equation of a line parallel or perpendicular to a second line through a given point.	1
Communication Express mathematical ideas precisely and communicate them coherently and clearly in the language and notation of mathematics.	Algebra I	13. Identify characteristics of a data set, including measurement or categorical and univariate or bivariate.	13
	Algebra II	Describing how sample statistics reflect values of population parameters	10.2
	Algebra II with Trigonometry	Describing how sample statistics reflect values of population parameters	13.2
	Algebra II with Trigonometry	Identifying the domain and range of a relation given its graph, a table of values, or its equation, including those with restricted domains	3.1
	Algebra III with Statistics	Defining vocabulary associated with probability and statistics, including descriptive and inferential statistics	10.1
	Geometry	13. Identify the coordinates of the vertices of the image of a given polygon that is translated, rotated, reflected, or dilated.	13

Alignments of PSAT/NMSQT Skill Categories and State Standards

PSAT/NMSQT	Alabama Math: Course of Study 2003		
Skill Category and Description of Skills	Course/ Level	Standard	Standard ID
Connections	Algebra II	Identifying real-world situations corresponding to families of functions	3.2
Connect ideas from different areas of mathematics (particularly geometry and algebra) to state or solve abstract or applied problems.	Algebra II with Trigonometry	Identifying real-world situations corresponding to families of functions	3.2
	Algebra II with Trigonometry	Applying functions to real-world problems	5.4
	Algebraic Connections	Generating, manually or with technological tools, graphs and tables related to personal finance and economics	1.1
	Algebraic Connections	9. Analyze the aesthetics of real-life situations using line symmetry, rotational symmetry, or the golden ratio.	9
	Data, Statistics, and Probability	Algebra I	Determining effects of linear transformations of data
Analyze data, understand descriptive statistics, make inferences and determine the likelihood that certain events will occur.	Algebra I	Determining effects of outliers	12.2
	Algebra I	Evaluating the appropriateness of the design of a survey	12.3
	Algebra I	13. Identify characteristics of a data set, including measurement or categorical and univariate or bivariate.	13
	Algebra I	14. Use a scatterplot and its line of best fit or a specific line graph to determine the relationship existing between two sets of data, including positive, negative, or no relationship.	14
	Algebra I	Comparing theoretical and experimental probabilities	15.1
	Algebra II	Evaluating the appropriateness of the design of an experimental study	10.1
	Algebra II	Describing how sample statistics reflect values of population parameters	10.2

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PSAT/NMSQT	Alabama Math: Course of Study 2003		
Skill Category and Description of Skills	Course/ Level	Standard	Standard ID
Data, Statistics, and Probability Analyze data, understand descriptive statistics, make inferences and determine the likelihood that certain events will occur.	Algebra II	Examining data to determine if a linear or quadratic relationship exists and to predict outcomes	11.1
	Algebra II	Using permutations and combinations to calculate probabilities	12.1
	Algebra II	Calculating conditional probability	12.2
	Algebra II	Calculating probabilities of mutually exclusive events, independent events, and dependent events	12.3
	Algebra II with Trigonometry	Evaluating the appropriateness of the design of an experimental study	13.1
	Algebra II with Trigonometry	Describing how sample statistics reflect values of population parameters	13.2
	Algebra II with Trigonometry	Examining data to determine if a linear, quadratic, or exponential relationship exists and to predict outcomes	14.1
	Algebra II with Trigonometry	Using permutations and combinations to calculate probabilities	15.1
	Algebra II with Trigonometry	Calculating conditional probability	15.2
	Algebra II with Trigonometry	Calculating probabilities of mutually exclusive events, independent events, and dependent events	15.3
	Algebra III with Statistics	Defining vocabulary associated with probability and statistics, including descriptive and inferential statistics	10.1
	Algebra III with Statistics	Comparing descriptive statistics for samples of varying sizes generated by simulation	10.2
	Algebra III with Statistics	Critiquing the appropriateness of the instrument used in a study	12.2

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PSAT/NMSQT Skill Category and Description of Skills	Alabama Math: Course of Study 2003		
	Course/ Level	Standard	Standard ID
Data, Statistics, and Probability Analyze data, understand descriptive statistics, make inferences and determine the likelihood that certain events will occur.	Algebra III with Statistics	Using situations involving conditional probabilities	13.1
	Algebra III with Statistics	Comparing the terms of a binomial expansion to the terms of a binomial probability distribution	14.1
	Algebra III with Statistics	Using data in quality control applications	15.1
	Algebra III with Statistics	Evaluating data-based reports by examining the design of the study, appropriateness of data analysis, and validity of conclusions	16.1
	Algebra III with Statistics	9. Compare summary statistics for sets of data represented in a graph, a stem-and-leaf chart, a box-and-whisker graph, a histogram, a linear or quadratic equation of best fit of a scatterplot, and a frequency distribution.	9
	Algebraic Connections	13. Model a set of data by estimating the equation of a curve of best fit from tables of values or scatterplots.	13
	Algebraic Connections	Making decisions on the basis of probabilities	14.1
	Geometry	Distinguishing between conclusions drawn when using deductive and statistical reasoning	17.1
	Geometry	Calculating probabilities arising in geometric contexts	17.2
Geometry	18. Construct with precision a circle graph to represent data from given tables or classroom experiments.	18	
Geometry and Measurement Solve problems based on understanding the properties of shapes, such as triangles and circles, and the spatial relationships between angles and lines.	Algebra I	Deriving the distance, midpoint, and slope formulas	10.1
	Algebra I	Applying formulas to solve word problems	11.1
	Algebra II	9. Solve coordinate geometry problems using algebraic techniques.	9
	Algebraic Connections	10. Use arc length and sector area to solve applied problems.	10

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PSAT/NMSQT	Alabama Math: Course of Study 2003		
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<p>Geometry and Measurement</p> <p>Solve problems based on understanding the properties of shapes, such as triangles and circles, and the spatial relationships between angles and lines.</p>	Algebraic Connections	11. Critique the appropriateness of measurements in terms of precision, accuracy, and approximate error.	11
	Algebraic Connections	12. Use ratios of perimeters, areas, and volumes of similar figures to solve applied problems.	12
	Algebraic Connections	8. Determine missing information in an application-based situation by using the properties of right triangles, including trigonometric ratios.	8
	Algebraic Connections	9. Analyze the aesthetics of real-life situations using line symmetry, rotational symmetry, or the golden ratio.	9
	Geometry	11. Determine the areas and perimeters of regular polygons, including inscribed or circumscribed polygons, given the coordinates of vertices or other characteristics.	11
	Geometry	12. Apply distance, midpoint, and slope formulas to solve problems and to confirm properties of polygons.	12
	Geometry	13. Identify the coordinates of the vertices of the image of a given polygon that is translated, rotated, reflected, or dilated.	13
	Geometry	Identifying Euclidean solids	14.1
	Geometry	15. Calculate measures of arcs and sectors of a circle from given information.	15
	Geometry	Developing formulas for surface area and volume of spheres, cones, and pyramids	16.1
	Geometry	Calculating specific missing dimensions of solid figures from surface area or volume	16.2
	Geometry	Determining the relationship between the surface areas of similar figures and volumes of similar figures	16.3
	Geometry	2. Justify theorems related to pairs of angles, including angles formed by parallel and perpendicular lines, vertical angles, adjacent angles, complementary angles, and supplementary angles.	2
	Geometry	Determining the missing lengths of sides or measures of angles in similar polygons	3.1

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Geometry and Measurement Solve problems based on understanding the properties of shapes, such as triangles and circles, and the spatial relationships between angles and lines.	Geometry	Verifying the formulas for the measures of interior and exterior angles of polygons inductively and deductively	4.1
	Geometry	Determining the equation of a circle given its center and radius	5.1
	Geometry	6. Apply the Pythagorean Theorem to solve application problems, expressing answers in simplified radical form or as decimal approximations, using Pythagorean triples when applicable.	6
	Geometry	Deriving the ratios of the sides of 30-60-90 and 45-45-90 triangles	7.1
	Geometry	Determining the geometric mean to find missing lengths in right triangles	8.1
	Geometry	Recognizing the limitations of justifying a conclusion through inductive reasoning	9.1
Number and Operations Understand types of numbers (integers, fractions, decimals), their properties and the correct order of operations (addition, multiplication, division). Perform computations correctly.	Algebra I	Applying laws of exponents to simplify expressions, including those containing zero and negative integral exponents	1.1
Problem Solving Solve abstract and practical problems, applying and adapting a variety of strategies. Monitor progress and evaluate answers in terms of questions asked.	Algebra I	Applying laws of exponents to simplify expressions, including those containing zero and negative integral exponents	1.1
	Algebra I	Deriving the distance, midpoint, and slope formulas	10.1
	Algebra I	Applying formulas to solve word problems	11.1
	Algebra I	Determining effects of linear transformations of data	12.1
	Algebra I	Determining effects of outliers	12.2
	Algebra I	Evaluating the appropriateness of the design of a survey	12.3

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Skill Category and Description of Skills	Course/ Level	Standard	Standard ID
<p>Problem Solving</p> <p>Solve abstract and practical problems, applying and adapting a variety of strategies. Monitor progress and evaluate answers in terms of questions asked.</p>	Algebra I	14. Use a scatterplot and its line of best fit or a specific line graph to determine the relationship existing between two sets of data, including positive, negative, or no relationship.	14
	Algebra I	Comparing theoretical and experimental probabilities	15.1
	Algebra I	Finding the slope of a line from its equation or by applying the slope formula	2.1
	Algebra I	Determining the equations of linear functions given two points, a point and the slope, tables of values, graphs, or ordered pairs	2.2
	Algebra I	Graphing two-variable linear equations and inequalities on the Cartesian plane	2.3
	Algebra I	Finding the range of a function when given its domain	3.1
	Algebra I	Identifying situations that are modeled by common relations, including $x = \text{constant}$, $y = \text{constant}$, $y = x$, $y = \text{square root of } x$, $y = x $, and $y = x $	4.1
	Algebra I	Dividing by a monomial	5.1
	Algebra I	6. Factor binomials, trinomials, and other polynomials using GCF, difference of squares, perfect square trinomials, and grouping.	6
	Algebra I	Writing the solution of an equation or inequality in set notation	7.1
	Algebra I	Graphing the solution of an equation or inequality	7.2
	Algebra I	Modeling real-world problems by developing and solving equations and inequalities, including those involving direct and inverse variation	7.3
	Algebra I	Modeling real-world problems by developing and solving systems of linear equations and inequalities	8.1
	Algebra I	Approximating solutions graphically and numerically	9.1
	Algebra II	Using permutations and combinations to calculate probabilities	12.1
Algebra II	Calculating conditional probability	12.2	

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Skill Category and Description of Skills	Course/ Level	Standard	Standard ID
Problem Solving Solve abstract and practical problems, applying and adapting a variety of strategies. Monitor progress and evaluate answers in terms of questions asked.	Algebra II	Calculating probabilities of mutually exclusive events, independent events, and dependent events	12.3
	Algebra II	Identifying the domain and range of a relation given its graph, a table of values, or its equation, including those with restricted domains	3.1
	Algebra II	Using completing the square, the zero product property, and the quadratic formula	4.1
	Algebra II	Determining the maximum or minimum values of quadratic functions both graphically and algebraically	5.4
	Algebra II	Determining the inverse of a function or a relation	6.1
	Algebra II	Solving equations using laws of exponents, including rational and irrational exponents	7.1
	Algebra II	9. Solve coordinate geometry problems using algebraic techniques.	9
	Algebra II with Trigonometry	Using permutations and combinations to calculate probabilities	15.1
	Algebra II with Trigonometry	Calculating conditional probability	15.2
	Algebra II with Trigonometry	Calculating probabilities of mutually exclusive events, independent events, and dependent events	15.3
	Algebra II with Trigonometry	Using the zero product property, completing the square, and the quadratic formula	4.1
	Algebra II with Trigonometry	Determining the maximum or minimum values of quadratic functions both graphically and algebraically	5.3
	Algebra II with Trigonometry	Determining the inverse of a function or a relation	6.1
	Algebra II with Trigonometry	Performing operations on polynomial and rational expressions containing variables	6.2
Algebra II with Trigonometry	Solving equations using laws of exponents, including rational and irrational exponents	7.1	

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Skill Category and Description of Skills	Course/ Level	Standard	Standard ID
Problem Solving Solve abstract and practical problems, applying and adapting a variety of strategies. Monitor progress and evaluate answers in terms of questions asked.	Algebra II with Trigonometry	Solving word problems involving real-life situations	8.2
	Algebra III with Statistics	Using situations involving conditional probabilities	13.1
	Algebra III with Statistics	Evaluating data-based reports by examining the design of the study, appropriateness of data analysis, and validity of conclusions	16.1
	Algebra III with Statistics	2. Solve problems involving maximum or minimum values of functions by using linear programming procedures.	2
	Algebra III with Statistics	Determining equations of conic sections from their graphs	3.1
	Algebra III with Statistics	Approximating zeros using Descartes' Rule of Signs and the bisection method	4.1
	Algebra III with Statistics	Describing the end behavior of a polynomial function given its degree and leading coefficient	4.2
	Algebra III with Statistics	5. Solve systems of linear and quadratic equations and inequalities.	5
	Algebra III with Statistics	6. Approximate solutions of trigonometric and exponential equations from tables and graphs.	6
	Algebraic Connections	10. Use arc length and sector area to solve applied problems.	10
	Algebraic Connections	12. Use ratios of perimeters, areas, and volumes of similar figures to solve applied problems.	12
	Algebraic Connections	2. Solve problems using direct, inverse, and joint variation.	2
Algebraic Connections	3. Use formulas or equations of functions to calculate outcomes of exponential growth or decay.	3	

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PSAT/NMSQT Skill Category and Description of Skills	Alabama Math: Course of Study 2003		
	Course/ Level	Standard	Standard ID
Problem Solving Solve abstract and practical problems, applying and adapting a variety of strategies. Monitor progress and evaluate answers in terms of questions asked.	Algebraic Connections	6. Use the extreme value of a given quadratic function to solve applied problems.	6
	Geometry	1. Determine the equation of a line parallel or perpendicular to a second line through a given point.	1
	Geometry	11. Determine the areas and perimeters of regular polygons, including inscribed or circumscribed polygons, given the coordinates of vertices or other characteristics.	11
	Geometry	12. Apply distance, midpoint, and slope formulas to solve problems and to confirm properties of polygons.	12
	Geometry	Identifying Euclidean solids	14.1
	Geometry	Calculate measures of arcs and sectors of a circle from given information.	15
	Geometry	Developing formulas for surface area and volume of spheres, cones, and pyramids	16.1
	Geometry	Calculating specific missing dimensions of solid figures from surface area or volume	16.2
	Geometry	Determining the relationship between the surface areas of similar figures and volumes of similar figures	16.3
	Geometry	Distinguishing between conclusions drawn when using deductive and statistical reasoning	17.1
	Geometry	Calculating probabilities arising in geometric contexts	17.2
	Geometry	Determining the missing lengths of sides or measures of angles in similar polygons	3.1
	Geometry	Verifying the formulas for the measures of interior and exterior angles of polygons inductively and deductively	4.1
	Geometry	Determining the equation of a circle given its center and radius	5.1
	Geometry	6. Apply the Pythagorean Theorem to solve application problems, expressing answers in simplified radical form or as decimal approximations, using Pythagorean triples when applicable.	6

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	Course/ Level	Standard	Standard ID
Problem Solving Solve abstract and practical problems, applying and adapting a variety of strategies. Monitor progress and evaluate answers in terms of questions asked.	Geometry	Deriving the ratios of the sides of 30-60-90 and 45-45-90 triangles	7.1
	Geometry	Determining the geometric mean to find missing lengths in right triangles.	8.1
	Geometry	Recognizing the limitations of justifying a conclusion through inductive reasoning	9.1
Reasoning Develop and use mathematical arguments and proofs to explore the truth of conjectures and justify conclusions.	Algebra II	Evaluating the appropriateness of the design of an experimental study	10.1
	Algebra II	Examining data to determine if a linear or quadratic relationship exists and to predict outcomes	11.1
	Algebra II	Determining the nature of the solutions of a quadratic equation	5.3
	Algebra II with Trigonometry	Evaluating the appropriateness of the design of an experimental study	13.1
	Algebra II with Trigonometry	Examining data to determine if a linear, quadratic, or exponential relationship exists and to predict outcomes	14.1
	Algebra II with Trigonometry	Deriving the quadratic formula	4.2
	Algebra III with Statistics	Comparing descriptive statistics for samples of varying sizes generated by simulation	10.2
	Algebra III with Statistics	Critiquing the appropriateness of the instrument used in a study	12.2
	Algebra III with Statistics	Comparing the terms of a binomial expansion to the terms of a binomial probability distribution	14.1
	Algebra III with Statistics	Using data in quality control applications	15.1
Algebraic Connections	11. Critique the appropriateness of measurements in terms of precision, accuracy, and approximate error.	11	

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PSAT/NMSQT	Alabama Math: Course of Study 2003		
Skill Category and Description of Skills	Course/ Level	Standard	Standard ID
Reasoning Develop and use mathematical arguments and proofs to explore the truth of conjectures and justify conclusions	Algebraic Connections	Making decisions on the basis of probabilities	14.1
	Algebraic Connections	7. Make predictions based upon tables or graphs from societal contexts.	7
	Algebraic Connections	8. Determine missing information in an application-based situation by using the properties of right triangles, including trigonometric ratios.	8
	Geometry	2. Justify theorems related to pairs of angles, including angles formed by parallel and perpendicular lines, vertical angles, adjacent angles, complementary angles, and supplementary angles.	2
Representation Use and translate among representations including verbal, numerical, symbolic and graphical to communicate mathematical ideas and solve problems.	Algebra II	Writing an equation when given its roots or graph	5.1
	Algebra II	Graphing a function when given its equation	5.2
	Algebra II	Performing operations on polynomial and rational expressions containing variables	6.2
	Algebra II	Constructing graphs by analyzing their functions as sums or differences	6.3
	Algebra II	Expressing the solution of an equation, inequality, or applied problem as a graph on a number line or by using set or interval notation	7.2
	Algebra II with Trigonometry	Generating an equation when given its roots or graph	5.1
	Algebra II with Trigonometry	Graphing a function when given its equation	5.2
	Algebra II with Trigonometry	Constructing graphs by analyzing their functions as sums, differences, or products	6.3
Algebra II with Trigonometry	Expressing the solution of an equation, inequality, or applied problem as a graph on a number line or by using set or interval notation	7.2	

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Representation Use and translate among representations including verbal, numerical, symbolic and graphical to communicate mathematical ideas and solve problems.	Algebra III with Statistics	9. Compare summary statistics for sets of data represented in a graph, a stem-and-leaf chart, a box-and-whisker graph, a histogram, a linear or quadratic equation of best fit of a scatterplot, and a frequency distribution.	9
	Algebraic Connections	13. Model a set of data by estimating the equation of a curve of best fit from tables of values or scatterplots.	13
	Algebraic Connections	Graphing information from tables, equations, or classroom-generated data to model consumer costs and to predict future outcomes	5.1
	Geometry	18. Construct with precision a circle graph to represent data from given tables or classroom experiments.	18

PSAT/NMSQT Skills Insight™ Alignment to State Standards

Executive Summary, July 2010

Purpose

PSAT/NMSQT *Skills Insight*™ is a free online tool designed to help students and educators gain a better understanding of how PSAT/NMSQT® scores relate to specific academic skills. It provides a description of the academic skills that are typical of students scoring at each score band, suggestions for improvement, and practice test questions. Learn more by visiting www.collegeboard.com/psatskills.

The information provided by PSAT/NMSQT *Skills Insight* is organized by skill category. There are five skill categories for the critical reading section, nine for the mathematics section (4 content skill categories; 5 process skill categories), and 5 for the writing skills section. This report shows the alignment between state standards in English Language Arts and Mathematics and the content and skills measured by the PSAT/NMSQT.

Using Alignment Results with PSAT/NMSQT Reports

Schools and districts that administer the PSAT/NMSQT have access to the *Summary of Answers and Skills* (SOAS) report¹. SOAS reports summarize performance on test sections, skill categories, and individual test questions, and compare local results to the state or nation. Using SOAS and the alignment information provided in this report, schools and districts can develop remediation strategies to help students improve their college readiness skills, future SAT scores, and performance on state assessments.

Mathematics: Alignment Approach and Findings

- There are nine Skills Categories in Mathematics, representing both content and process skills: *Number and Operations; Algebra and Functions; Geometry and Measurement; Data, Statistics and Probability; Problem Solving; Representation; Reasoning; Connections and Communication*.
- Only standards for grades 9-12 were considered for these alignments. Within grades 9-12, the areas with the greatest concentration of alignments are the Number and Operations, Algebra and Geometry strands of the state standards. In most cases, Precalculus and Trigonometry were excluded from the alignment study.
- The organization and hierarchy of standards varies on a state-by-state basis. During the alignment process, the College Board aligned the PSAT/NMSQT skills to the most specific level of the state's standards.
- States often integrate process and content standards. In such cases, the state standard received an alignment to both a process skill category and a content skill category.
- Generally, there is strong correspondence between the PSAT/NMSQT Skills Categories in Mathematics and state standards. Coverage of the Skills Categories across a state standards document is dependent upon the specific state standards and on the degree of specificity of language employed within the standards.
- The PSAT/NMSQT is administered to students in grades 10 and 11; consequently, the strongest areas of alignment are in the content categories of *Number and Operations, Algebra and Functions* and *Geometry and Measurement* and in the process categories of *Problem Solving, Reasoning* and *Representations*. Considering the design and purpose of the PSAT/NMSQT, extensive alignments in upper levels of high school mathematics standards, including Trigonometry, are not intended or expected.

¹ Using the access code printed on the PSAT/NMSQT *Roster of Student Scores and Plans*, SOAS reports can be downloaded from www.collegeboard.com/reports beginning in the first week of January.

- The College Board content specialists who conducted the alignments have a deep understanding of the PSAT/NMSQT test specifications. Therefore, although multiple Skills Categories might link to a particular standard, these alignments display only the strongest and most appropriate matches.

English Language Arts: Alignment Approach and Findings

- Reading and Writing each have five PSAT/NMSQT Skills Categories. In Reading, the categories are *Determining the Meaning of Words*, *Author’s Craft*, *Reasoning and Inferencing*, *Organization and Ideas* and *Understanding Literary Elements*. In Writing, the categories are *Manage Word Choice and Grammatical Relationships Between Words*, *Manage Grammatical Structures Used to Modify or Compare*, *Manage Phrases and Clauses in a Sentence*; *Recognize Correctly Formed Sentences* and *Manage Order and Relationships of Sentences and Paragraphs*.
- The PSAT/NMSQT is administered to students in grades 10 and 11, and the College Board targeted the English Language Arts alignments at these specific grade levels. In states where the standards are organized by grade band (grades 9-10, 11-12) or by one high school band (grades 9-12), the College Board aligned to all high school grade levels.
- Given the purpose and design of the PSAT/NMSQT, the English Language Arts alignment is focused on the areas of reading and writing and does not include state standards in speaking, listening, or media literacy. Additionally, these alignments excluded genre-specific state standards (such as those related to American, British, or World literature), although the essential PSAT/NMSQT skills in Reading can be used to support instruction in literature.
- The organization and hierarchy of standards varies on a state-by-state basis. During the alignment process, the College Board aligned the PSAT/NMSQT skills to the most specific level of the state’s standards. Coverage of the Skills Categories across a state standards document is dependent upon the specific state standards and on the degree of specificity of language employed within the standards.
- In Writing, generally there is strong correspondence between the PSAT/NMSQT Skills Categories and state standards that focus on grammar, usage, language conventions, and the role of editing and revising in writing.
- In Reading, there is strong correspondence between the PSAT/NMSQT Skills Categories and state standards in the essential areas of vocabulary development (determine the meaning of unfamiliar words or of words with multiple meanings by understanding context and by analyzing roots, prefixes, and suffixes) and reading comprehension (determine the main idea and supporting details; understand the organization of passages; analyze the various elements of an author’s craft, including purpose, perspective, word choice, and use of rhetorical and literary devices and understand literary elements such as plot, characterization, and setting).

Summary

In summary, the PSAT/NMSQT Skills Categories correspond well to state standards. Educators can use these alignments to connect the PSAT/NMSQT to their local curricula and state standards to monitor student learning and to build a coherent instructional plan for their students.