

**Tennessee
Career and Technical Education Matrix for Mathematics**

The “✓” designations in the program columns under each career pathway identify significant opportunities for academic standards-related instruction within the various career-technical programs. The absence of a “✓” should not, however, be interpreted as offering no opportunity for interdisciplinary instruction. Teachers should make decisions based on their own instructional goals, assessment priorities, best judgments, and student interests.

Tennessee Mathematics Content Standards/ State Performance Indicators Algebra I	TCAP	Business Management & Administration						Education & Training			Finance			
		Management	Business Financial Mgmt. & Accounting	Human Resources	Business Analysis	Marketing	Administration & Information Support	Administration & Administrative Support	Professional Support Services	Teaching & Training	Financial & Investment Planning	Business Finance Management	Banking & Related Services	Insurance Services
Standard 1 – Mathematical Processes														
SPI 3102.1.1 Interpret patterns found in sequences, tables, and other forms of quantitative information using variables or function notation.	H	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SPI 3102.1.2 Write an equation symbolically to express a contextual problem.	H	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SPI 3102.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems.	H	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SPI 3102.1.4 Translate between representations of functions that depict real-world situations.	H	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SPI 3102.1.5 Recognize and express the effect of changing constants and/or coefficients in problem solving.	H	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SPI 3102.1.6 Determine and interpret slope in multiple contexts including rate of change in real-world problems.	H	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Standard 2 – Number & Operations														
SPI 3102.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions.	H		✓		✓		✓	✓		✓	✓	✓	✓	✓

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SPI 3102.2.2 Multiply, divide, and square numbers expressed in scientific notation.	H		✓		✓		✓	✓		✓	✓	✓	✓	✓
SPI 3102.2.3 Describe and/or order a given set of real numbers including both rational and irrational numbers.	H		✓		✓		✓	✓		✓	✓	✓	✓	✓
Standard 3 – Algebra														
SPI 3102.3.1 Express a generalization of a pattern in various representations including algebraic and function notation.	H	✓	✓		✓		✓	✓		✓	✓			✓
SPI 3102.3.2 Operate with polynomials and simplify results.	H		✓		✓		✓	✓		✓	✓			✓
SPI 3102.3.3 Factor polynomials.	H		✓		✓		✓	✓		✓	✓			✓
SPI 3102.3.4 Operate with, evaluate, and simplify rational expressions including determining restrictions on the domain of the variables.	H		✓		✓		✓	✓		✓	✓			✓
SPI 3102.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.	H		✓		✓		✓	✓		✓	✓			✓
SPI 3102.3.6 Interpret various relations in multiple representations.	H		✓		✓		✓	✓		✓	✓			✓
SPI 3102.3.7 Determine domain and range of a relation, determine whether a relation is a function and/or evaluate a function at a specified rational value.	H		✓		✓		✓	✓		✓	✓			✓
SPI 3102.3.8 Determine the equation of a line and/or graph a linear equation.	H		✓		✓		✓	✓		✓	✓			✓
SPI 3102.3.9 Solve systems of linear equation/inequalities in two variables.	H		✓		✓		✓	✓		✓	✓			✓
SPI 3102.3.10 Find the solution of a quadratic equation and/or zeros of a quadratic function.	H		✓		✓		✓	✓		✓	✓			✓