	T	I		T		
Advanced Mathematics TEKS #s	Grade 7, Middle School Advanced Mathematics	Corresponding Grade 6,7,8, Alg I TEKS #s	Grade 6, 7, 8 Mathematics TEKS, Adopted 2012	Notes		
Coding Key	New language is formatted in green font and underlined.					
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	*All editing marks indicate adjustments made in reorganization of TEKS for		dvanced Mathematics TEKS, Grades 6, 7, 8 and Algebra LTEKS rem	ain unchanged *		
(a)	Implementation. The provisions of this section may be implemented by	Windare School / Re	availed Mathematics 1213. Glades 6, 7, 6 and 1 iigeofa 1 1213 fem	um unchanged.		
()	school districts beginning with the 2025-2026 school year.					
(b)	Introduction.	(b)				
(1)	The desire to achieve educational excellence is the driving force behind the Texas essential knowledge and skills for mathematics, guided by the college and career readiness standards. By embedding statistics, probability, and finance, while focusing on computational thinking, mathematical fluency, and solid understanding, Texas will lead the way in mathematics education and prepare all Texas students for the challenges they will face in the 21st century.	(1)		Identical language		
(2)	The process standards describe ways in which students are expected to engage in the content. The placement of the process standards at the beginning of the knowledge and skills listed for each grade and course is intentional. The process standards weave the other knowledge and skills together so that students may be successful problem solvers and use mathematics efficiently and effectively in daily life. The process standards are integrated at every grade level and course. When possible, students will apply mathematics to problems arising in everyday life, society, and the workplace. Students will use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution. Students will select appropriate tools such as real objects, manipulatives, algorithms, paper and pencil, and technology and techniques such as mental math, estimation, number sense, and generalization and abstraction to solve problems. Students will effectively communicate mathematical ideas, reasoning, and their implications using multiple representations such as symbols, diagrams, graphs, computer programs, and language. Students will use mathematical relationships to generate solutions and make connections and predictions. Students will analyze mathematical relationships to connect and communicate mathematical ideas. Students will display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.			Identical language		
(3)	To increase the number of students who complete advanced mathematics courses in high school, the middle school advanced mathematics courses are designed to enable students to complete Algebra I by the end of Grade 8.			Focus for advanced mathematics courses to have student reach Algebra 1 by end of Grade 8		

		Corresponding					
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	· · ·	(3)	The primary focal areas in Grade 7 are number and operations; proportionality; expressions, equations, and relationships; and measurement and data. Students use concepts, algorithms, and properties of rational numbers to explore mathematical relationships and to describe increasingly complex situations. Students use concepts of proportionality to explore, develop, and communicate mathematical relationships, including number, geometry and measurement, and statistics and probability. Students use algebraic thinking to describe how a change in one quantity in a relationship results in a change in the other. Students connect verbal, numeric, graphic, and symbolic representations of relationships, including equations and inequalities. Students use geometric properties and relationships, as well as spatial reasoning, to model and analyze situations and solve problems. Students communicate information about geometric figures or situations by quantifying attributes, generalize procedures from measurement experiences, and use the procedures to solve problems. Students use appropriate statistics, representations of data, and reasoning to draw conclusions, evaluate arguments, and make recommendations. While the use of all types of technology is important, the emphasis on algebra readiness skills necessitates the implementation of graphing technology.	Updates for strand and substrand names, including function foundations, and clarifying use of technology tools to support student learning regardless of use allowed on assessments. Included conceptual understanding and procedural fluency to update for connections to math RBIS.			
	be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.	(4)		Identical language			
· /	-	(c)					
	Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:	(1)		These KSs are identical.			
	workplace;	(A)		These SEs are identical.			
	use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;	(B)		These SEs are identical.			
	select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;	(C)		These SEs are identical.			
	communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;	(D)		These SEs are identical.			
	create and use representations to organize, record, and communicate mathematical ideas;	(E)		These SEs are identical.			
	analyze mathematical relationships to connect and communicate mathematical ideas; and	(F)		These SEs are identical.			
	display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.	(G)		These SEs are identical.			
	Numeracyfoundations of real numbers. The student applies mathematical process standards to represent and use real numbers in a variety of forms. The student is expected to:	8.2	Number and operations. The student applies mathematical process standards to represent and use real numbers in a variety of forms. The student is expected to:	The number and operations strand was divided into substrands including foundational concepts and application of concepts.			
	extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers;	8.2.A		These SEs are identical.			
	approximate the value of an irrational number, including π and square roots of numbers less than 225, and locate that rational number approximation on a number line;	8.2.B		These SEs are identical.			
	convert between standard decimal notation and scientific notation; and	8.2.C		These SEs are identical.			

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7AM.2.D	order a set of real numbers arising from mathematical and real-world	8.2.D	Availed Mathematics TERS. Grades 6, 7, 6 and 7 ligeota 1 TERS femile	These SEs are identical.			
	contexts.						
7AM.3	<u>Numeracy</u> operations <u>with rational numbers</u> . The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to:	7.3	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to:	The number and operations strand was divided into substrands including foundational concepts and application of concepts.			
7AM.3.A	add, subtract, multiply, and divide rational numbers fluently; and	7.3.A		These SEs are identical.			
7AM.3.B	apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.	7.3.B		These SEs are identical.			
7AM.4	Numeracyapplications of percents. The student applies mathematical process standards to represent and solve problems involving percents as proportional relationships. The student is expected to:	7.4	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to:	This substrand was added to the numeracy strand as part of the reorganization of SEs.			
7AM.4.A	solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems; and	7.4.D		These SEs are identical.			
7AM.4.B	calculate and compare simple interest and compound interest earnings; and	7.13.E 8.12.D		These SEs are identical.			
7AM.4.C	analyze and compare monetary incentives, including sales, rebates, and coupons:	7.13.F		These SEs are identical.			
7AM.4.D	solve real-world problems comparing how interest rate and loan length affect the cost of credit;	8.12.A		These SEs are identical.			
7AM.4.E	calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator;	8.12.B		These SEs are identical.			
7AM.4.F	explain how small amounts of money invested regularly, including money saved for college and retirement, grow over time; and	8.12.C		These SEs are identical.			
7AM.4.G	estimate the cost of a two-year and four-year college education, including family contribution, and devise a periodic savings plan for accumulating the money needed to contribute to the total cost of attendance for at least the first year of college.	8.12.G		These SEs are identical.			
7AM.5	Proportionality—geometric ratios. The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships such as dilations. The student is expected to:	7.5	Proportionality. The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to:	The proportionality strand was divided into substrands including geometric ratios and probability. The addition of "such as dilations" references subsumed SE 8.3.A			
7AM.5.A	describe π as the ratio of the circumference of a circle to its diameter; and	7.5.B		These SEs are identical.			
7AM.5.B	generalize the critical attributes of similarity, including ratios within and between similar shapes;	7.5.A		These SEs are identical. 7AM.5.B combines 8.3.A and 7.5.A (Similar shapes include a shape and its dilation)			
		8.3.A	[generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation;]	Subsumed into 7AM.5.B			
7AM.5.C	solve mathematical and real-world problems involving similar shape and scale drawings;	7.5.C		These SEs are identical.			
7AM.5.D	compare and contrast the attributes of a shape and its dilation(s) on a coordinate plane; and	8.3.B		These SEs are identical.			
7AM.5.E	use an algebraic representation to explain the effect of a given positive rational scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation.	8.3.C		These SEs are identical.			

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7AM.6	Proportionality—probability. The student applies mathematical process		Proportionality. The student applies mathematical process standards	The proportionality strand was		
7.25.20	standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to:		to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to:	divided into substrands including geometric ratios and probability.		
7AM.6.A	represent sample spaces for simple and compound events using lists and tree diagrams;	7.6.A		These SEs are identical.		
7AM.6.B	select and use different simulations to represent simple and compound events with and without technology;	7.6.B		These SEs are identical.		
7AM.6.C	make predictions and determine solutions using experimental data for simple and compound events;	7.6.C		These SEs are identical.		
7AM.6.D	simple and compound events;	7.6.D		These SEs are identical.		
7AM.6.E	find the probabilities of a simple event and its complement and describe the relationship between the two;	7.6.E		These SEs are identical.		
	solve problems using qualitative and quantitative predictions and comparisons from simple experiments; and	7.6.H		These SEs are identical.		
	compound events using data and sample spaces.	7.6.I		These SEs are identical.		
7AM.7	One-variable expressions, equations, and relationships—applications of one-variable relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to:	8.8	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to:	The expressions, equations, and relationships strand was renamed to focus on one-variable expressions, equations, and relationships with an emphasis on application.		
7AM.7.A	represent solutions for one-variable, two-step inequalities on number lines; and	7.10.B	represent solutions for one-variable, two-step equations and inequalities on number lines; and	7AM.7.A focus is on inequalities. Strikethrough language is in 6AM.8.C, and also addressed in 7AM.7.E		
7AM.7.B	model and solve one-variable, two-step inequalities;	7.11.A	model and solve one-variable, two-step equations and inequalities;	7AM.7.A focus is on inequalities. Strikethrough language is in 6AM.8.C, and also addressed in 7AM.7.E		
7AM.7.C	write one-variable equations or inequalities with variables on both sides that represent problems using rational number coefficients and constants;	8.8.A		These SEs are identical.		
7AM.7.D	write a corresponding real-world problem when given a one-variable equation or inequality with variables on both sides of the equal sign using rational number coefficients and constants; and	8.8.B		These SEs are identical.		
7AM.7.E	model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.; and	8.8.C		These SEs are identical.		
7AM.8	Two-variable equations and relationshipsfoundations of linear relationships. The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions. The student is expected to:	8.5	Proportionality. The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions. The student is expected to:	This strand was renamed to bring focus to linear relationships.		
7AM.8.A	determine the constant of proportionality $(k = y/x)$ within mathematical and real-world problems;	7.4.C		These SEs are identical.		
	distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form $y = kx$ or $y = mx + b$, where $b \neq 0$; and	8.5.F		These SEs are identical.		
7AM.8.C	identify examples of proportional and non-proportional <u>relationships</u> that arise from mathematical and real-world problems.; and	8.5.H	identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems.; and	Functions was changed to relationships to maintain concept alignment with grade 7 vocabulary.		
7AM.9	Two-variable equations and relationships-applications of linear relationships. The student applies mathematical process standards to represent linear relationships using multiple representations. The student is expected to:	7.7	Expressions, equations, and relationships. The student applies mathematical process standards to represent linear relationships using multiple representations. The student is expected to:	Expressions, equations, and relationships was renamed to focus on two-variable equations and relationships with an emphasis on application of linear relationships. KS 7.7 and SE 7.7(A) were separated.		

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7AM.9.A	represent linear <u>proportional</u> and <u>non-proportional</u> relationships using verbal descriptions, tables, graphs, and equations that simplify to the form $y = mx + b$.	7.7(A)	represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form $y = mx + b$.	7AM.9.A combines8.5A, 8.5B, and 8.5.I. "Proportional and non-proportional" was added from grade 8 KS 5.
		8.5.A	[represent linear proportional situations with tables, graphs, and equations in the form of $y = kx$;]	Subsumed into 7AM.9.A
		8.5.B	[represent linear non-proportional situations with tables, graphs, and equations in the form of $y = mx + b$, where $b \neq 0$;]	Subsumed into 7AM.9.A
		8.5.I	[write an equation in the form y = mx + b to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations.]	Subsumed into 7AM.9.A
7AM.10	Geometric expressions, equations, and relationships—foundations of geometric concepts. The student applies mathematical process standards to develop geometric relationships and solve problems. The student is expected to:	8.6	Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to:	The expressions, equations, and relationships strand was divided into substrands including foundations of geometric concepts and application of geometric concepts.
7AM.10.A	use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas;	7.8.C		These SEs are identical.
7AM.10.B	solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net;-	7.9.D		These SEs are identical.
7AM.10.C	describe the volume formula V = Bh of a cylinder in terms of its base area and its height;	8.6.A		These SEs are identical.
7AM.10.D	model the relationship between the volume of a rectangular prism and a rectangular pyramid having both congruent bases and heights and connect that relationship to the formulas;	7.8.A		These SEs are identical.
7AM.10.E	explain verbally and symbolically the relationship between the volume of a triangular prism and a triangular pyramid having both congruent bases and heights and connect that relationship to the formulas; and	7.8.B		These SEs are identical.
7AM.10.F	model the relationship between the volume of a cylinder and a cone having both congruent bases and heights and connect that relationship to the formulas; and	8.6.B		These SEs are identical.
7AM.10.G 7AM.10.H	use models and diagrams to explain the Pythagorean theorem; and- use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.	8.6.C 8.8.D		These SEs are identical. These SEs are identical.
7AM.11	Geometric expressions, equations, and relationshipsapplications of geometric concepts. The student applies mathematical process standards to solve geometric problems. The student is expected to:	7.8	Expressions, equations, and relationships. The student applies mathematical process standards to develop geometric relationships with volume. The student is expected to:	The expressions, equations, and relationships strand was divided into substrands including foundations of geometric concepts and application of geometric concepts. The terms "solve" and "problems" were included from
		7.0 P		grade 8 KS 7.
7AM.11.A 7AM.11.B	determine the circumference and area of circles; determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles; and	7.9.B 7.9.C		These SEs are identical. These SEs are identical.
7AM.11.C	use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders;	8.7.B		These SEs are identical.
7AM.11.D	solve problems involving the volume of rectangular pyramids, and triangular pyramids;	7.9.A	solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids;	Strikethrough language placed in 6AM.12.C.
7AM.11.E	solve problems involving the volume of cylinders, cones, and spheres;	8.7.A	, g rj, ma amagam pjaminas,	These SEs are identical.
7AM.11.F	use the Pythagorean Theorem and its converse to solve problems; and	8.7.C		These SEs are identical.
7AM.11.G	determine the distance between two points on a coordinate plane using the Pythagorean Theorem.	8.7.D		These SEs are identical.

Advanced	1	Corresponding		T			
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7AM.12	Geometric expressions, equations, and relationships – transformations. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to:	8.10	Two dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts.	A new substrand was named to address transformations.			
7AM.12.A	generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane;	8.10.A		These SEs are identical.			
7AM.12.B	differentiate between transformations that preserve congruence and those that do not;	8.10.B		These SEs are identical.			
7AM.12.C	explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation; and	8.10.C		These SEs are identical.			
7AM.12.D	model the effect on linear and area measurements of dilated two-dimensional shapes.	8.10.D		These SEs are identical.			
7AM.13	Data Scienceapplications of measurement and data. The student applies mathematical process standards to use statistical representations and procedures to analyze and describe data. The student is expected to:	7.12	Measurement and data. The student applies mathematical process standards to use statistical representations to analyze data. The student is expected to:	The strand was renamed "Data science." The substrand specifies that the SEs included with this KS are related to applications of measurement and data. The terms "procedures" and "describe" were included from grade 8 KS 11.			
7AM.13.A	use data from a random sample to make inferences about a population; and	7.12.B 7.6.F		These SEs are identical.			
7AM.13.B	compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations;	7.12.C		These SEs are identical.			
7AM.13.C	simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected; and-	8.11.C		These SEs are identical.			
7AM.13.D	determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.; and	8.11.B		These SEs are identical.			
7AM.14	Personal financial literacy — money management. The student applies mathematical process standards to develop an economic way of thinking and problem solving useful in one's life as a knowledgeable consumer and investor. The student is expected to:	7.13	Personal financial literacy. The student applies mathematical process standards to develop an economic way of thinking and problem solving useful in one's life as a knowledgeable consumer and investor. The student is expected to:	A substrand was added to the personal financial literacy strand.			
7AM.14.A	identify the components of a personal budget, including income; planned savings for college, retirement, and emergencies; taxes; and fixed and variable expenses, and calculate what percentage each category comprises of the total budget;	7.13.B		These SEs are identical.			
7AM.14.B	use a family budget estimator to determine the minimum household budget and average hourly wage needed for a family to meet its basic needs in the student's city or another large city nearby; and	1		These SEs are identical.			
7AM.14.C	analyze situations to determine if they represent financially responsible decisions and identify the benefits of financial responsibility and the costs of financial irresponsibility.; and	8.12.F		These SEs are identical.			