Mathematical Process Standards	
6AM.1	**Mathematical process standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding.
Tools to Know	
6AM.1(A)	apply mathematics to problems arising in everyday life, society, and the workplace
6AM.1(B)	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
6AM.1(C)	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

Representation and Comparison of Rational Numbers	
6AM.2	**Numeracy – foundations with rational numbers**. The student applies mathematical process standards to represent and use rational numbers in a variety of forms.
Student Expectations	
6AM.2(A)	classify sets and subsets using a visual representation such as a Venn diagram or a hierarchy to describe relationships between sets of rational numbers (**6.2A**, **7.2A**)
6AM.2(B)	identify a number, its opposite, and its absolute value (**6.2B**)
6AM.2(C)	represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers as proportional relationships (**6.4F**)
6AM.2(D)	generate equivalent forms of fractions, decimals, and percents using real-world problems as proportional relationships, including problems that involve money (**6.4G**)
6AM.2(E)	use equivalent fractions, decimals, and percents to show equal parts of the same whole as a proportional relationship (**6.5C**)
6AM.2(F)	locate, compare, and order integers and rational numbers using a number line (**6.2C**)
6AM.2(G)	order a set of rational numbers arising from mathematical and real-world contexts (**6.2D**)

Operations with Rational Numbers	
6AM.3	**Numeracy – operations with rational numbers**. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying the solutions.
Student Expectations	
6AM.3(A)	recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values (**6.3A**)
6AM.3(B)	determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one (**6.3B**)
6AM.3(C)	extend representations for division to include fraction notation such as a/b represents the same number as $a \div b$ where $b \neq 0$ (**6.2E**)
6AM.3(D)	represent integer operations with concrete models and connect the actions with the models to standardized algorithms (**6.3C**)
6AM.3(E)	add, subtract, multiply, and divide integers fluently (**6.3D**)
6AM.3(F)	add, subtract, multiply, and divide positive rational numbers fluently (**6.3E**, **7.3A**)
6AM.3(G)	generate equivalent numerical expressions using order of operations, including whole number exponents, and prime factorization (**6.7A**)
6AM.3(H)	balance a check register that includes deposits, withdrawals, and transfers (**6.14C**)
6AM.3(I)	create and organize a financial assets and liabilities record and construct a net worth statement (**7.13C**)

NOTE: Advanced Math standards include alignment/correlation to standard grade level Student Expectations – listed as Readiness (**green**) or Supporting (**orange**) to support assessment implications for STAAR.

Proportional Reasoning

6AM.4	**Numeracy – application of percents.** The student applies mathematical process standards to solve problems involving percents as proportional relationships.
6AM.5	**Proportionality – foundations of ratios and rates.** The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations.
6AM.6	**Proportionality – applications of ratios and rates.** The student applies mathematical process standards to solve problems involving proportional relationships.

Student Expectations	
6AM.4(A)	solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models (**6.5B**)
6AM.4(B)	calculate the sales tax for a given purchase and calculate income tax for earned wages (**7.13A**)
6AM.5(A)	give examples of ratios as multiplicative comparisons of two quantities describing the same attribute (**6.4C**)
6AM.5(B)	give examples of rates as the comparison by division of two quantities having different attributes, including rates as quotients (**6.4D**)
6AM.5(C)	represent ratios and percents with concrete models, fractions and decimals (**6.4E**)
6AM.5(D)	represent mathematical and real-world problems involving ratios and rates using scale factors, tables, graphs, and proportions (**6.5A**)
6AM.6(A)	apply qualitative and quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates (**6.4B**)
6AM.6(B)	calculate unit rates from rates in mathematical and real-world problems (**7.4B**)
6AM.6(C)	convert units within and between a measurement system, including the use of proportions and the use of unit rates (**6.4H**, **7.4E**)

Expressions, Equations, and Inequalities

6AM.7	**One-variable expressions, equations and relationships – foundations of one-variable relationships.** The student applies mathematical process standards to develop concepts of expressions and equations.
6AM.8	**One-variable expressions, equations and relationships – applications of one-variable relationships.** The student applies mathematical process standards to use equations and inequalities to represent situations and solve problems.

Student Expectations	
6AM.7(A)	distinguish between expressions and equations verbally, numerically, and algebraically (**6.7B**)
6AM.7(B)	determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations (**6.7C**)
6AM.7(C)	generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties (**6.7D**)
6AM.8(A)	write one-variable, one- and two-step equations and inequalities to represent constraints or conditions within problems (**6.9A**, **7.10A**)
6AM.8(B)	write corresponding real-world problems given one-variable, one- and two-step equations or inequalities (**6.9C**, **7.10C**)
6AM.8(C)	represent solutions for one-variable, one- and two-step equations and inequalities on number lines (**6.9B**, **7.10B**)
6AM.8(D)	model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts (**6.10A**)
6AM.8(E)	model and solve one-variable, two step equations and inequalities (**7.11A**)
6AM.8(F)	determine if the given value(s) make(s) one-variable, one- and two-step equations or inequalities true (**6.10B**, **7.11B**)

Representations of Linear Relationships

6AM.2	**Numeracy – foundations with rational numbers.** The student applies mathematical process standards to represent and use rational numbers in a variety of forms.
6AM.9	**Two-variable equations and relationships – foundations of linear relationships.** The student applies mathematical process standards to use multiple representations to describe algebraic relationships.
6AM.10	**Two-variable equations and relationships – applications of proportional relationships.** The student applies mathematical process standards to represent and solve problems involving proportional relationships.

Student Expectations	
6AM.2(H)	use coordinate geometry to identify locations on a plane, including graphing points in all four quadrants using ordered pairs of rational numbers (**6.11A**)
6AM.9(A)	identify independent and dependent quantities from tables and graphs (**6.6A**)
6AM.9(B)	write an equation that represents the relationship between independent and dependent quantities from a table (**6.6B**)
6AM.9(C)	represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$ (**6.6C**)
6AM.9(D)	compare two rules verbally, numerically, graphically, and symbolically in the form of $y = ax$ or $y = x + a$ in order to differentiate between additive and multiplicative relationships (**6.4A**)
6AM.10(A)	represent constant rate of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical and algebraic representations, including $d = rt$ (**7.4A**)

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Geometry and Measurement	
6AM.6	**Proportionality – applications of ratios and rates.** The student applies mathematical process standards to solve problems involving proportional relationships.
6AM.11	**Geometric expressions, equations, and relationships – foundations of geometric concepts.** The student applies mathematical process standards to use geometry to represent relationships.
6AM.12	**Geometric expressions, equations, and relationships – applications of geometric concepts.** The student applies mathematical process standards to use geometry to represent relationships and solve problems.

Student Expectations	
6AM.6(C)	convert within and between measurement systems, including the use of proportions and the use of unit rates (**6.4H**, **7.4E**)
6AM.11(A)	model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes (**6.8B**)
6AM.11(B)	write equations that represent problems related to the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers (**6.8C**)
6AM.12(A)	extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle (**6.8A**)
6AM.12(B)	determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers (**6.8D**)
6AM.12(C)	solve problems involving the volume of right rectangular prisms and triangular prisms (**6.8D**, **7.9A**)
6AM.12(D)	write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships (**7.11C**)

Data Analysis	
6AM.13	**Data science – foundations of measurement and data.** The student applies mathematical process standards to represent and analyze data.
6AM.14	**Data science – applications of measurement and data.** The student applies mathematical process standards to use numerical or graphical representations to analyze and solve problems.

Student Expectations	
6AM.13(A)	distinguish between situations that yield data with and without variability (**6.13B**)
6AM.13(B)	represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots (**6.12A**)
6AM.14(A)	use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution (**6.12B**)
6AM.14(B)	summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution (**6.12C**)
6AM.14(C)	interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots (**6.13A**)
6AM.14(D)	solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents (**7.6G**)
6AM.14(E)	compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads (**7.12A**)
6AM.14(F)	summarize categorical data with numerical and graphical summaries, including the mode, the percent of values in each category (relative frequency table), and the percent bar graph, and use these summaries to describe the data distribution (**6.12D**)

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Personal Financial Literacy	
6AM.15	**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.
	Student Expectations
6AM.15(A)	compare the features and costs of a checking account and a debit card offered by different local financial institutions (**6.14A**)
6AM.15(B)	identify and explain the advantages and disadvantages of different payment methods, including distinguishing between debit cards and credit cards (**6.14B**, 8.12E)
6AM.15(C)	explain why it is important to establish a positive credit history (6.14D)
6AM.15(D)	describe the information in a credit report and how long it is retained (**6.14E**)
6AM.15(E)	describe the value of credit reports to borrowers and to lenders (**6.14F**)
6AM.15(F)	explain various methods to pay for college, including through savings, grants, scholarships, student loans, and work-study (**6.14G**)
6AM.15(G)	compare the annual salary of several occupations requiring various levels of post-secondary education or vocational training and calculate the effects of the different annual salaries on lifetime income (**6.14H**)

Mathematical Process Standards	
6AM.1	**Mathematical process standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding.
	Tools to Know
6AM.1(D)	communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate
6AM.1(E)	create and use representations to organize, record, and communicate mathematical ideas
6AM.1(F)	analyze mathematical relationships to connect and communicate mathematical ideas
6AM.1(G)	display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication

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