

**Grade 6 TAKS Math**  
**to**  
**Strategies for Test-Taking Success: Math**

**STRATEGIES FOR TEST-TAKING SUCCESS: MATH**

**TAKS**

**OBJECTIVES**

**DETAIL/ PAGE**

<b>Objective 1</b>		
<b>The student will demonstrate an understanding of numbers, operations, and quantitative reasoning.</b>		
6.1	<b>Number, operation, and quantitative reasoning.</b> The student represents and uses rational numbers in a variety of equivalent forms. The student is expected to	
6.1 A	compare and order non-negative rational numbers;	compare and order non-negative rational numbers positive numbers, 79-84;
6.1 B	generate equivalent forms of rational numbers, including whole numbers, fractions, and decimals;	Whole Numbers and Number Sense, 10-48 Fractions, Decimals, and Percents, 49-75 decimals, 63-69
6.1 C	use integers to represent real-life situations;	Real-life problems, 35, 45-47, 53, 56, 59, 62, 66
6.1 D	write prime factorizations using exponents; and	Prime factorizations, 50- 62  Exponents, 141
6.1E	identify factors and multiples, including common factors and common multiples.	Square roots, 147
6.2	<b>Number, operation, and quantitative reasoning.</b> The student adds, subtracts, multiplies, and divides to solve problems and justify solutions. The student is expected to	

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6.2 A	model addition and subtraction situations involving fractions with [objects,] pictures, words, and numbers;	Addition and subtractions of fractions, 51-53
6.2 B	use addition and subtraction to solve problems involving fractions and decimals;	Fractions, Decimals, and Percents, 49-75 decimals, 63-69
6.2 C	use multiplication and division of whole numbers to solve problems, including situations involving equivalent ratios and rates; and	Fractions, Decimals, and Percents, 49-75 decimals, 63-69  Ratios 103-107
6.2 D	estimate and round to approximate reasonable results and to solve problems where exact answers are not required.	Evaluate for reasonableness, 18
<p><b>Objective 2</b>  <b>The student will demonstrate an understanding of patterns, relationships, and algebraic reasoning.</b></p>		
6.3	<b>Patterns, relationships, and algebraic thinking.</b> The student solves problems involving proportional relationships. The student is expected to	
6.3 A	use ratios to describe proportional situations;	Ratios 103-107  Algebra, 79-98
6.3 B	represent ratios and percents with [concrete] models, fractions, and decimals; and	Fractions, Decimals, and Percents, 49-75 decimals, 63-69  Algebra, 79-98

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6.3 C	use ratios to make predictions in proportional situations.	Ratios103-107
6.4	<b>Patterns, relationships, and algebraic thinking.</b> The student uses letters as variables in mathematical expressions to describe how one quantity changes when a related quantity changes. The student is expected to	
6.4 A	use tables and symbols to represent and describe proportional and other relationships involving conversions, sequences, perimeter, area, etc.; and	Perimeter, 134 Area 133, 137, 139, 141, 142, Algebra, 79-98
6.4 B	generate formulas to represent relationships involving perimeter, area, volume of a rectangular prism, etc., from a table of data.	Perimeter, 134 Area 133, 137, 139, 141, 142
6.5	<b>Patterns, relationships, and algebraic thinking.</b> The student uses letters to represent an unknown in an equation. The student is expected to	
6.5 A	formulate an equation from a problem situation.	Algebra, 79-98
6.5 B	use an algebraic expression to find any term in a sequence.	Algebra, 79-98
<b>Objective 3</b> <b>The student will demonstrate an understanding of geometry and spatial reasoning.</b>		

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6.6	<b>Geometry and spatial reasoning.</b> The student uses geometric vocabulary to describe angles, polygons, and circles. The student is expected to	
6.6 A	use angle measurements to classify angles as acute, obtuse, or right;	Geometry, 127-150 Inferences, 42-44
6.6 B	identify relationships involving angles in triangles and quadrilaterals; and	Geometry, 127-150, dilations, reflections and translations 149-150
6.6 C	describe the relationship between radius, diameter, and circumference of a circle.	Radius, diameter and circumference of a circle, 132-134,
6.7	<b>Geometry and spatial reasoning.</b> The student uses coordinate geometry to identify location in two dimensions. The student is expected to	
6.7 A	locate and name points on a coordinate plane using ordered pairs of non-negative rational numbers.	Geometry, 127-150 Coordinate plane,149-150
	<b>Objective 4</b> <b>The student will demonstrate an understanding of the concepts and uses of measurement.</b>	
6.8	<b>Measurement.</b> The student solves application problems involving estimation and measurement of length, area, time, temperature, capacity, weight, and angles. The student is expected to	

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6.8 A	estimate measurements and evaluate reasonableness of results;	Two dimensional models, area, 137-142
6.8 B	select and use appropriate units, tools, or formulas to measure and to solve problems involving length (including perimeter and circumference), area, time, temperature, capacity, and weight;	Formulas, 19, 90
6.8 C	measure angles; and	Volume, 143 -144, 145, 153
6.8 D	convert measures within the same measurement system (customary and metric) based on relationships between units.	Measurements, Customary and metric, 90 , 154
	<p><b>Objective 5</b>  <b>The student will demonstrate an understanding of probability and statistics.</b></p>	
6.9	<p><b>Probability and statistics.</b> The student uses experimental and theoretical probability to make predictions. The student is expected to</p>	
6.9A	construct sample spaces using lists, tree diagrams, and combinations; and	Probability, Data and Statistics, 103-126
6.9 B	find the probabilities of a simple event and its complement and describe the relationship between the two.	Probability, Data and Statistics, 103-126
6.10	<p><b>Probability and statistics.</b> The student uses statistical representations to analyze data. The student is expected to</p>	

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6.10 A	[draw and] compare different graphical representations of the same data;	Probability, Data and Statistics, 103-126 Graphs, 109-113
6.10 B	use median, mode, and range to describe data;	Median, mode, and range , 118-119, 181
6.10 C	sketch circle graphs to display data; and	Circle graphs, 110, 165
6.10 D	solve problems by collecting, organizing, displaying, and interpreting data.	Probability, Data and Statistics, 103-126
	<p><b>Objective 6</b>  <b>The student will demonstrate an understanding of the mathematical processes and tools used in problem solving.</b></p>	
6.11	<p><b>Underlying processes and mathematical tools.</b> The student applies Grade 6 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school. The student is expected to</p>	
6.11 A	identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics;	Everyday experiences, throughout the book math problems are based on everyday experiences, for example, Problem Practice, 104, 108, 119, 142.
6.11 B	use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness; and	Make a long-term study plan, 13-18 Get the best score, 185-186

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6.11 C	select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem.	Problem-solving strategies, 95-98
6.12	<b>Underlying processes and mathematical tools.</b> The student communicates about Grade 6 mathematics through informal and mathematical language, representations, and models. The student is expected to	
6.12 A	communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.	Probability, Data and Statistics, 103-126
6.13	<b>Underlying processes and mathematical tools.</b> The student uses logical reasoning to make conjectures and verify conclusions. The student is expected to	
6.13 A	make conjectures from patterns or sets of examples and nonexamples; and	Patterns, 22, 91
6.13 B	validate his/her conclusions using mathematical properties and relationships.	Different strategies to solve problems 16-18, 95-96