

Virginia Standards of Learning, Grade 7, Correlated to *Glencoe Pre-Algebra*

Lessons in which the standards are a primary focus are indicated in **bold**.

Standards of Learning		Student Edition Lesson(s)
Strand: Number and Number Sense		
7.1	The student will compare, order, and determine equivalent relationships between fractions, decimals, and percents, including use of scientific notation for numbers greater than 10.	4-8, 5-1, 5-2, 5-6, 6-2, 6-4, 6-5P, 9-2
7.2	The student will simplify expressions that contain rational numbers (whole numbers, fractions, and decimals) and positive exponents, using order of operations, mental mathematics, and appropriate tools.	1-2, 1-3F, 1-4, 2-2, 2-3, 2-4, 2-5, 3-1, 4-2, 4-5, 4-6, 5-3, 5-4, 5-5, 5-7, 5-9, 9-1
7.3	The student will identify and apply the following properties of operations with real numbers:	
7.3a	the commutative and associative properties for addition and multiplication;	1-4, 2-2, 2-4, 3-2, 3-3, 3-6, 4-6
7.3b	the distributive property;	3-1, 3-2, 3-7, 4-1, 4-4, 7-2
7.3c	the additive and multiplicative identity properties;	1-4, 3-2, 3-3, 3-4, 3-5
7.3d	the additive and multiplicative inverse properties; and	2-2, 3-3, 5-4
7.3e	the multiplicative property of zero.	1-4
Strand: Computation and Estimation		
7.4a	The student will solve practical problems using rational numbers (whole numbers, fractions, decimals) and percents; and	5-1, 5-2, 5-3, 5-4, 5-5, 5-6, 5-7, 5-9, 6-1, 6-2, 6-4, 6-5, 6-6, 6-7, 6-7F, 6-8
7.4b	The student will solve consumer-application problems involving tips, discounts, sales tax, and simple interest.	6-6, 6-7, 6-7F
7.5	The student will formulate rules for and solve practical problems involving basic operations (addition, subtraction, multiplication, and division) with integers.	1-2, 1-3, 1-4, 1-5, 2-1, 2-2P, 2-2, 2-3, 2-4, 2-5, 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-7F, 4-1, 4-2, 4-3, 4-4, 4-6, 4-7, 4-8, 6-5, 7-1, 7-2, 7-3, 7-4, 7-5, 7-6, 9-4, 9-5, 9-7, 10-1, 10-5, 10-8, 11-1, 11-2, 11-4, 11-6, 12-6, 12-7, 13-2, 13-3, 13-4, 13-5, 13-6
7.6	The student will use proportions to solve practical problems, which may include scale drawings, that contain rational numbers (whole numbers, fractions, and decimals) and percents.	6-2, 6-2F, 6-3, 6-5
Strand: Measurement		
7.7a	The student, given appropriate dimensions, will estimate and find the area of polygons by subdividing them into rectangles and right triangles; and	10-5P, 10-5, 10-8
7.7b	The student will apply perimeter and area formulas in practical situations.	3-7, 7-2, 8-9, 10-5, 10-6, 10-7, 10-8
7.8	The student will investigate and solve problems involving the volume and surface area of rectangular prisms and cylinders, using concrete materials and practical situations to develop formulas.	11-2P, 11-2, 11-4, 11-6P, 11-6

Strand: Geometry		
7.9	The student will compare and contrast the following quadrilaterals: parallelogram, rectangle, square, rhombus, and trapezoid. Deductive reasoning and inference will be used to classify quadrilaterals.	10-4
7.10	The student will identify and draw the following polygons: pentagon, hexagon, heptagon, octagon, nonagon, and decagon.	10-6
7.11	The student will determine if geometric figures—quadrilaterals and triangles—are similar and write proportions to express the relationships between corresponding parts of similar figures.	9-7, 10-3F, 11-6
7.12	The student will identify and graph ordered pairs in the four quadrants of a coordinate plane.	1-6, 2-6
7.13	The student, given a polygon in the coordinate plane, will represent transformations—rotation and translation—by graphing the coordinates of the vertices of the transformed polygon and sketching the resulting figure.	10-3
Strand: Probability and Statistics		
7.14	The student will investigate and describe the difference between the probability of an event found through simulation versus the theoretical probability of that same event.	6-9, 6-9F
7.15	The student will identify and describe the number of possible arrangements of several objects, using a tree diagram or the Fundamental (Basic) Counting Principle.	12-6
7.16	The student will create and solve problems involving the measures of central tendency (mean, median, mode) and the range of a set of data.	5-8, 5-8F, 12-2
7.17	The student, given a problem situation, will collect, analyze, display, and interpret data, using a variety of graphical methods, including	
7.17a	frequency distributions;	12-4
7.17b	line plots;	5-8
7.17c	histograms;	12-4, 12-4F
7.17d	stem-and-leaf plots;	12-1
7.17e	box-and-whisker plots; and	12-3, 12-3F
7.17f	scattergrams.	1-7P, 1-7, 1-7F
7.18	The student will make inferences, conjectures, and predictions based on analysis of a set of data.	1-7P, 1-7, 3-7F, 5-10F, 6-2F, 6-7F, 6-9, 8-4P, 8-5P, 8-5, 8-8, 9-8P, 11-2, 11-6P
Strand: Patterns, Functions, and Algebra		
7.19	The student will represent, analyze, and generalize a variety of patterns, including arithmetic sequences and geometric sequences, with tables, graphs, rules, and words in order to investigate and describe functional relationships.	5-10, 8-1, 8-2P, 8-2, RM8, 8-3, 8-5, 8-6, 8-6F, 8-7, 13-5, 13-6, 13-6F
7.20	The student will write verbal expressions as algebraic expressions and sentences as equations.	1-3, 1-5, 3-2, 3-4, RM3, 3-6, 8-7
7.21	The student will use the following algebraic terms appropriately: <i>equation</i> , <i>inequality</i> , and <i>expression</i> .	1-2, 1-5, 2-1, 4-2, 7-3
7.22a	The student will solve one-step linear equations and inequalities in one variable with strategies involving inverse operations and integers, using concrete materials, pictorial representations, and paper and pencil; and	1-5, 3-3 and 3-4P, 3-3, 3-4, 3-7, 5-9, 7-4, 7-5
7.22b	The student will solve practical problems requiring the solution of a one-step linear equation.	3-3, 3-4, 3-7, 5-9

P = Preview, F = Follow-Up, RM = Reading Mathematics