

## Virginia Standards of Learning, Grade 7, Correlated to Glencoe Mathematics: Applications and Concepts, Course 2

Lessons in which the standard is the primary focus are indicated in **bold**.

Standard of Learning		Student Edition Lesson(s)
<b>Strand: Number and Number Sense</b>		
<b>7.1</b>	The student will compare, order, and determine equivalent relationships between fractions, decimals, and percents, including use of scientific notation for numbers greater than 10.	<b>1-9, 5-4, 5-5, 5-6, 5-8, 7-5, 7-6</b>
<b>7.2</b>	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.	<b>1-3, 1-5</b>
<b>7.3</b>	The student will identify and apply the following properties of operations with real numbers:	
	a) the commutative and associative properties for addition and multiplication;	<b>1-6</b>
	b) the distributive property;	<b>1-6</b>
	c) the additive and multiplicative identity properties;	<b>1-6</b>
	d) the additive and multiplicative inverse properties; and	<b>3-4, 6-5</b>
	e) the multiplicative property of zero.	<b>3-6</b>
<b>Strand: Computation and Estimation</b>		
<b>7.4</b>	The student will	
	a) solve practical problems using rational numbers (whole numbers, fractions, decimals) and percents; and	5-5, 7-7, 7-8, 8-4, 8-5, 8-6
	b) solve consumer-application problems involving tips, discounts, sales tax, and simple interest.	7-8, <b>8-1b</b> , 8-2, 8-4, <b>8-5, 8-6</b> , 8-6b
<b>7.5</b>	The student will formulate rules for and solve practical problems involving basic operations (addition, subtraction, multiplication, and division) with integers.	<b>3-4, 3-5, 3-6, 3-7</b>
<b>7.6</b>	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.	<b>7-3, 7-3b, 7-4</b>
<b>Strand: Measurement</b>		
<b>7.7</b>	The student, given appropriate dimensions, will	
	a) estimate and find the area of polygons by subdividing them into rectangles and right triangles; and	<b>11-7</b>
	b) apply perimeter and area formulas in practical situations.	<b>6-8, 11-4, 11-5, 11-6, 11-7</b>
<b>7.8</b>	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.	<b>12-2, 12-2b, 12-3, 12-4a, 12-4, 12-4b, 12-5</b>
<b>Strand: Geometry</b>		
<b>7.9</b>	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.	<b>10-5</b>
<b>7.10</b>	The student will identify and draw the following polygons: pentagon, hexagon, heptagon, octagon, nonagon, and decagon.	<b>10-7</b>

Standard of Learning		Student Edition Lesson(s)
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.	10-6
7.12	The student will identify and graph ordered pairs in the four quadrants of a coordinate plane.	3-3, 4-6a
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.	10-8, 10-9b
<b>Strand: Probability and Statistics</b>		
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.	9-6, 9-6b
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.	9-2, 9-3, 9-4, 9-5
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.	2-3, 2-4, 2-4b, 2-5, 2-6, 2-8
7.17	The student, given a problem situation, will collect, analyze, display, and interpret data, using a variety of graphical methods, including	
	a) frequency distributions;	2-1, 2-2a, 2-2, 2-3, 2-4, 2-4b, 2-5, 2-6, 2-7, 2-8, 2-7b
	b) line plots;	2-3
	c) histograms;	2-7
	d) stem-and-leaf plots;	2-5
	e) box-and-whisker plots; and	2-6
f) scattergrams.	2-2	
7.18	The student will make inferences, conjectures, and predictions based on analysis of a set of data.	2-2a, 2-2, 4-6a, 8-3a, 8-3
<b>Strand: Patterns, Functions, and Algebra</b>		
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.	1-1, 1-7, 1-7b, 3-6a, 4-6a, 4-6
7.20	The student will write verbal expressions as algebraic expressions and sentences as equations.	4-1, 4-6
7.21	The student will use the following algebraic terms appropriately: <i>equation</i> , <i>inequality</i> , and <i>expression</i> .	1-4, 1-5, 4-1, 4-2, 4-3, 4-5
7.22	The student will	
	a) 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, 4-2a, 4-2, 4-3, 4-5
	b) solve practical problems requiring the solution of a one-step linear equation.	1-5, 4-2, 4-3, 4-5