A Harcourt Achieve Standard Correlation of Saxon Algebra 1, 3rd Edition Teacher's Manuals To the Illinois Assessment Frameworks (2001)

GRADE EIGHT		
ILLINOIS ASSESSMENT FRAMEWORKS	**INSTRUCTION**	**ASSESSMENT**
MATHEMATICS		
6. Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios and proportions.		
6A. Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings. (Calculators Allowed)		
6.8.01. Read, write, and recognize equivalent representations of integer powers of 10.	**Lesson** Lesson(s): 80	
6.8.02. Read, write, recognize, model, and interpret integers, including translating numerical expressions.	**Lesson** Lesson(s): 4, 6, 7, 9-13, 30, 32, 39	**Test Master** Number(s): 1
6.8.03. Recognize, translate between, and apply multiple representations of rational numbers (decimals, fractions, mixed numbers, percents, and roots).	**Lesson** Lesson(s): 4, 19, 29, 30, 33, 35, 52, 63, 65, 66, 84, 108, 116	**Test Master** Number(s): 15, 16
6.8.04. Use scientific notation to represent numbers and solve problems.	**Lesson** Lesson(s): 74, 80	**Test Master** Number(s): 19-22, 25
6.8.05. Represent repeated factors using exponents.	**Lesson** Lesson(s): 19, 21, 35	
6.8.06. Order and compare rational numbers.	**Lesson** Lesson(s): 4	
6.8.07. Identify and locate rational and irrational numbers (e.g., π, $\sqrt{2}$, $\sqrt{5}$) on a number line.	**Lesson** Lesson(s): 3-7, 9	**Test Master** Number(s): 2, 7, 17, 19, 20, 24
6.8.08. Solve problems involving descriptions of numbers, including characteristics and relationships (e.g., exponents, roots, prime/composite, prime factorization, greatest common factor, least common multiple).	**Lesson** Lesson(s): 19, 29, 33-35, 43, 52, 62, 63, 65, 66, 76, 77, 84, 96, 114	**Test Master** Number(s): 9, 11-13, 15, 16, 25, 29
6B/6C. Investigate, represent and solve problems using number facts, operations (addition, subtraction, multiplication, division) and their properties, algorithms and relationships./ Compute and estimate using mental mathematics, paper–and–pencil methods, calculators and computers. (Calculators Allowed)		
6.8.09. Solve problems and number sentences involving addition, subtraction, multiplication, and division using rational numbers, exponents, and roots.	**Lesson** Lesson(s): 1, 4-7, 9, 21, 23, 24, 33, 44, 52, 65, 66, 76, 77, 84, 96, 114, 117	**Test Master** Number(s): 1-5, 9, 10, 13-16, 18, 20, 22-25, 29
6.8.10. Identify and apply order of operations to simplify numeric expressions involving integers (including exponents and roots), fractions, and decimals.	**Lesson** Lesson(s): 11-13, 16, 63	**Test Master** Number(s): 2-5
6.8.11. Identify and apply the following properties of operations with rational numbers:		
*. the commutative and associative properties for addition and multiplication;	**Lesson** Lesson(s): 5, 10	**Test Master** Number(s): 9
*. the distributive property;	**Lesson** Lesson(s): 17, 27, 31, 36, 40	**Test Master** Number(s): 5-12, 14, 16, 17, 19
*. the additive and multiplicative identity properties;	**Lesson** Lesson(s): 4	

A Harcourt Achieve Standard Correlation of Saxon Algebra 1, 3rd Edition Teacher's Manuals To the Illinois Assessment Frameworks (2001)

GRADE EIGHT		
ILLINOIS ASSESSMENT FRAMEWORKS	**INSTRUCTION**	**ASSESSMENT**
MATHEMATICS		
6. Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios and proportions.		
6B/6C. Investigate, represent and solve problems using number facts, operations (addition, subtraction, multiplication, division) and their properties, algorithms and relationships./ Compute and estimate using mental mathematics, paper–and–pencil methods, calculators and computers. (Calculators Allowed)		
6.8.11. Identify and apply the following properties of operations with rational numbers:		
*. the additive and multiplicative inverse properties; and	**Lesson** Lesson(s): 9, 10, 11	**Test Master** Number(s): 2-4, 7
*. the multiplicative property of zero.	**Lesson** Lesson(s): 4	
6.8.12. Describe the effect of multiplying and dividing by numbers, including the effect of multiplying or dividing a rational number by:		
*. a number less than zero;	**Lesson** Lesson(s): 13, 91	**Test Master** Number(s): 3-7
*. zero;	**Lesson** Lesson(s):4, 10	
*. a number between zero and one; and	**For an example refer to Saxon Math Algebra 1/2*	
*. a number greater than one.	**Lesson** Lesson(s): 13	**Test Master** Number(s): 3-7
6.8.13. Select, use, and justify appropriate operations, methods, and tools to compute or estimate with rational numbers.Verify solutions and determine the reasonableness of results.	**Lesson** Lesson(s): 33, 36, 40, 62, 65	
6.8.14. Estimate the square or cube root of a number less than 1,000 between two whole numbers (e.g., $3\sqrt{}$ 200 is between 5 and 6).	**Lesson** Lesson(s): 62, 63, 66	
6D. Solve problems using comparison of quantities, ratios, proportions and percents.(Calculators Allowed)		
6.8.15. Use ratios to describe problem situations.	**Lesson** Lesson(s): 38, 39	**Test Master** Number(s): 7-11, 13-17, 28, 29
6.8.16. Use proportional reasoning to model and solve problems.	**Lesson** Lesson(s): 38, 39, 113	**Test Master** Number(s): 7-17, 19-21, 23, 28, 29
6.8.17. Read, write, recognize, model, and interpret percents, including those less than 1% and greater than 100%.	**Lesson** Lesson(s): 47	**Test Master** Number(s): 8, 12-17, 19, 22, 24, 25, 27, 29, 30
6.8.18. Solve number sentences and problems involving fractions, decimals, and percents (e.g., percent increase and decrease, interest rates, tax, discounts, tips).	**Lesson** Lesson(s): 47, 58, 77	**Test Master** Number(s): 7, 8, 10-17, 19-25, 27-30

A Harcourt Achieve Standard Correlation of Saxon Algebra 1, 3rd Edition Teacher's Manuals To the Illinois Assessment Frameworks (2001)

GRADE EIGHT		
ILLINOIS ASSESSMENT FRAMEWORKS	**INSTRUCTION**	**ASSESSMENT**
MATHEMATICS		
7. Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.		
7A/7B/7C. Measure and compare quantities using appropriate units, instruments and methods./ Estimate measurements and determine acceptable levels of accuracy./ Select and use appropriate technology, instruments and formulas to solve problems, interpret results and communicate findings.(Calculators Allowed)		
7.8.01. Select and use appropriate standard units and tools to solve measurement problems, including measurements of polygons and circles.	**Lesson** Lesson(s): 8, 20	
7.8.02. Solve problems involving perimeter/circumference and area of polygons, circles, and composite figures using diagrams, models, and grids or by measuring or using given formulas (may include sketching a figure from its description).	**Lesson** Lesson(s): 3, 8	**Test Master** Number(s): 1-13, 15, 17, 20, 22, 26, 30
7.8.03. Compare and estimate length (including perimeter/circumference), area, volume, weight/mass, and angles (0° to 360°) using referents.	N/A	
7.8.04. Solve problems involving the volume or surface area of a right rectangular prism, right circular cylinder, or composite shape using an appropriate formula or strategy.	**Lesson** Lesson(s): 15, 20, 60, 72, 91	**Test Master** Number(s): 4-19, 21-25, 27-30
7.8.05. Solve problems involving unit conversions within the same measurement system for length, weight/mass, capacity, square units, and measures expressed as rates (e.g., converting feet/second to yards/minute).	**Lesson** Lesson(s): 4, 10, 53	**Test Master** Number(s): 2-5, 11
7.8.06. Solve problems involving scale drawings, maps, and indirect measurement (e.g., determining the height of a building by comparing its known shadow length to the known height and shadow length of another object).	**Lesson** Lesson(s): 97	
8. Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.		
8A. Describe numerical relationships using variables and patterns. (Calculators Allowed)		
8.8.01. Analyze, extend, and create sequences or linear functions, and determine algebraic expressions to describe the nth term of a sequence.	N/A	
8.8.02. Write an expression using variables to represent unknown quantities.	**Lesson** Lesson(s): 28, 30, 113, 117	**Test Master** Number(s): 8
8.8.03. Simplify algebraic expressions.	**Lesson** Lesson(s): 18, 21, 29, 40, 41, 44, 53, 55, 57, 68, 71, 72, 73, 93, 101, 105, 109	**Test Master** Number(s): 5-20, 22-26, 29
8.8.04. Recognize and generate equivalent forms of algebraic expressions.	**Lesson** Lesson(s): 17, 21, 23, 24, 28, 29, 35, 36, 40, 43, 48, 49, 52, 53, 55, 57, 68, 69, 71-73, 93, 109	**Test Master** Number(s): 5-7, 9-20, 23, 25-29

A Harcourt Achieve Standard Correlation of Saxon Algebra 1, 3rd Edition Teacher's Manuals To the Illinois Assessment Frameworks (2001)

GRADE EIGHT		
ILLINOIS ASSESSMENT FRAMEWORKS	**INSTRUCTION**	**ASSESSMENT**
MATHEMATICS		
8. Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.		
8A. Describe numerical relationships using variables and patterns. (Calculators Allowed)		
8.8.05. Evaluate or simplify algebraic expressions with one or more rational variable values (e.g., 3a2 – b for a = 3 and b = 7).	**Lesson** Lesson(s): 14, 16, 19, 21, 28, 29, 35, 40, 41, 44, 48, 49, 52, 53, 55, 57, 68, 82, 93, 101, 105, 109	**Test Master** Number(s): 4-20, 22-29
8B. Interpret and describe numerical relationships using tables, graphs and symbols. (Calculators Allowed)		
8.8.06. Recognize, describe, and extend patterns using rate of change.	**For an example refer to Saxon Math Algebra 1/2*	
8.8.07. Represent linear equations and quantitative relationships on a rectangular coordinate system, and interpret the meaning of a specific part of a graph.	**Lesson** Lesson(s): 51, 75, 81, 95, 106, 107	**Test Master** Number(s): 13-16, 20, 23
8.8.08. Translate between different representations (table, written, graphical, or pictorial) of whole number relationships and linear expressions.	**Lesson** Lesson(s): 22, 51, 56, 64, 75	**Test Master** Number(s): 11, 13-16, 19, 20, 22-27, 29, 30
8.8.09. Interpret the meaning of slope and intercepts in linear situations.	**Lesson** Lesson(s): 75, 98, 106, 107	**Test Master** Number(s): 19, 25-27, 29, 30
8.8.10. Identify, graph, and interpret up to two inequalities with a single variable (including the intersection or union of these inequalities) on a number line.	**Lesson** Lesson(s): 37, 39, 46, 64, 91, 111, 115	**Test Master** Number(s): 10-19, 21, 23-30
8C/8D. Solve problems using systems of numbers and their properties./ Use algebraic concepts and procedures to represent and solve problems. (Calculators Allowed)		
8.8.11. Represent and analyze problems with linear equations and inequalities.	**Lesson** Lesson(s):30, 32, 37, 39, 42, 46, 64, 46, 77, 78, 115, 117	**Test Master** Number(s): 7-12, 15, 16, 19-23, 25, 26, 28, 30
8.8.12. Solve linear equations and inequalities in one variable over the rational numbers (e.g., 5x+7= –13, 4x–3= –7x+8, –2x+3>–5).	**Lesson** Lesson(s): 22-27, 31-33, 41, 64, 76, 77, 78	**Test Master** Number(s): 6-17, 19-30
8.8.13. Solve word problems involving unknown quantities.	**Lesson** Lesson(s): 32, 33, 76, 77, 113, 114, 117	**Test Master** Number(s): 8-12, 15, 19-23, 25, 26, 28, 30
9. Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.		
9A. Demonstrate and apply geometric concepts involving points, lines, planes and space. (Calculators Allowed)		
9.8.01. Solve problems involving two– and three–dimensional shapes.	**Lesson** Lesson(s): 1-3, 8, 15, 20, 60, 72, 91	**Test Master** Number(s): 1-21, 23-30
9.8.02. Solve problems that require knowledge of triangle and quadrilateral properties (e.g., triangle inequality).	**Lesson** Lesson(s): 2, 98	**Test Master** Number(s): 1-8, 12, 25, 26, 30

A Harcourt Achieve Standard Correlation of Saxon Algebra 1, 3rd Edition Teacher's Manuals To the Illinois Assessment Frameworks (2001)

GRADE EIGHT		
ILLINOIS ASSESSMENT FRAMEWORKS	**INSTRUCTION**	**ASSESSMENT**
MATHEMATICS		
9. Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.		
9A. Demonstrate and apply geometric concepts involving points, lines, planes and space. (Calculators Allowed)		
9.8.03. Find the length of any side of a right triangle using the Pythagorean theorem (whole number solutions).	**Lesson** Lesson(s): 97, 98	**Test Master** Number(s): 25-28, 30
9.8.04. Identify, describe, and determine the radius, diameter, and circumference of a circle and their relationship to each other and to pi.	**Lesson** Lesson(s): 3	**Test Master** Number(s): 1, 3, 9, 12
9.8.05. Graph points, and identify coordinates of points on the Cartesian coordinate plane (all four quadrants).	**Lesson** Lesson(s): 50	
9.8.06. Represent and identify geometric figures using coordinate geometry, including those resulting from transformations.	**Lesson** Lesson(s): 51, 110	**Test Master** Number(s): 24-26, 28, 29
9.8.07. Analyze the results of a combination of transformations, and determine a different transformation that could produce the same result.	**For an example refer to Saxon Math Algebra 1/2*	
9.8.08. Identify or analyze relationships of angles formed by intersecting lines (including parallel lines cut by a transversal) and angles formed by radii of a circle.	**Lesson** Lesson(s): 97	
9.8.09. Solve problems involving vertical, complementary, and supplementary angles.	**For an example refer to Saxon Math Algebra 1/2*	
9B. Identify, describe, classify and compare relationships using points, lines, planes and solids.(Calculators Allowed)		
9.8.10. Identify front, side, and top views of a three–dimensional solid built with cubes.	**Lesson** Lesson(s): 15	
9.8.11. Solve problems involving congruent and similar figures.	**For an example refer to Saxon Math Algebra 1/2*	
9.8.12. Relate absolute value to distance on the number line.	**Lesson** Lesson(s): 102	
10. Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.		
10A/10B. Organize, describe and make predictions from existing data./ Formulate questions, design data collection methods, gather and analyze data and communicate findings. (Calculators Allowed)		
10.8.01. Read, interpret (including possible misleading characteristics), and make predictions from data represented in a bar graph, line (dot) plot, Venn diagram (with two or three circles), chart/table, line graph, scatterplots, circle graph, stem–and–leaf plot, or histogram.	**Lesson** Lesson(s): 85	**Test Master** Number(s): 22, 23
10.8.02. Compare and contrast the effectiveness of different representations of the same data.	**Lesson** Lesson(s): 85	
10.8.03. Create a bar graph, chart/table, line graph, or circle graph and solve a problem using the data in the graph for a given set of data.	**For an example refer to Saxon Math Algebra 1/2*	

A Harcourt Achieve Standard Correlation of Saxon Algebra 1, 3rd Edition Teacher's Manuals To the Illinois Assessment Frameworks (2001)

GRADE EIGHT		
ILLINOIS ASSESSMENT FRAMEWORKS	**INSTRUCTION**	**ASSESSMENT**
MATHEMATICS		
10. Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.		
10A/10B. Organize, describe and make predictions from existing data./ Formulate questions, design data collection methods, gather and analyze data and communicate findings. (Calculators Allowed)		
10.8.04. Identify or draw a reasonable approximation of the line of best fit from a set of data or a scatter plot, and use the line to make predictions.	N/A	
10.8.05. Analyze and apply measures of central tendency (mode, range, median, and mean) in problem–solving situations.	**Lesson** Lesson(s): 45, 85	**Test Master** Number(s): 12, 16, 22, 23
10C. Determine, describe and apply the probabilities of events.(Calculators Allowed)		
10.8.06. Solve problems involving the probability of an event composed of repeated trials, compound events (including independent events), or future events with or without replacement.	**Lesson** Lesson(s): 70, 73	**Test Master** Number(s): 18-22, 24-28
10.8.07. Represent all possible outcomes (sample space) for simple or compound events (e.g., tables, grids, tree diagrams).	**Lesson** Lesson(s): 70	
10.8.08. Solve simple problems involving the number of ways objects can be arranged (permutations and combinations).	**For an example refer to Saxon Math Algebra 1/2*	