

# Illinois Mathematics Assessment Framework, Grade 6, Correlated to *Glencoe Mathematics: Applications and Concepts, Course 1*

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

Assessment Objective		Student Edition Lesson(s)
<b>STATE GOAL 6 NUMBER SENSE</b>		
<b>Standard 6A—Representations and Ordering</b>		
<b>6.6.01</b>	Read, write, recognize, and model equivalent representations of whole numbers and their place values.	PS1
<b>6.6.02</b>	Read, write, recognize, model, and interpret numerical expressions from a given description or situation.	<b>1-5</b> , 8-1
<b>6.6.03</b>	Read, write, recognize, and model equivalent representations of fractions, including improper fractions and mixed numbers.	<b>5-2a</b> , <b>5-2</b> , <b>5-3</b> , 6-1
<b>6.6.04</b>	Recognize, translate between, and apply multiple representations of decimals, fractions, percents (less than 100%), and mixed numbers (halves, quarters, fifths, and tenths).	SS3, 4-6b, <b>5-6</b> , <b>5-7</b> , 7-2a, <b>10-5</b> , <b>10-6</b>
<b>6.6.05</b>	Read, write, recognize, and model equivalent representations of decimals and their place values through thousandths.	<b>3-1a</b> , <b>3-1</b> , 3-3, SS3
<b>6.6.06</b>	Represent repeated factors using exponents.	<b>1-4</b>
<b>6.6.07</b>	Order and compare whole numbers.	PS2
<b>6.6.08</b>	Order and compare decimals through thousandths.	<b>3-2</b> , <b>GZ3</b> , 4-6b
<b>6.6.09</b>	Order and compare fractions and mixed numbers having like or unlike denominators.	<b>5-5</b>
<b>6.6.10</b>	Identify and locate decimals, fractions, and mixed numbers on a number line.	3-2, 5-3
<b>6.6.11</b>	Solve problems involving descriptions of numbers, including characteristics and relationships (e.g., odd/even, factors/multiples, greater than, less than, square numbers, primes).	<b>1-2</b> , <b>1-3</b> , <b>GZ1</b> , <b>5-1</b> , <b>GZ5</b> , <b>5-4</b>
<b>Standards 6B, 6C—Computation, Operations, Estimation, and Properties</b>		
<b>6.6.12</b>	Solve problems and number sentences involving addition, subtraction, multiplication, and division using whole numbers.	<b>1-1</b> , <b>1-7a</b> , 2-2a, 8-5a, PS3
<b>6.6.13</b>	Solve problems and number sentences involving addition, subtraction, and multiplication of decimals.	<b>3-5</b> , <b>3-5b</b> , <b>4-1a</b> , <b>4-1</b> , <b>4-2a</b> , <b>4-3</b> , <b>GZ4</b> , <b>4-4a</b> , <b>4-4</b> , <b>4-4b</b>
<b>6.6.14</b>	Solve problems involving addition and subtraction of fractions and mixed numbers, and express answers in simplest form.	<b>6-3</b> , <b>GZ6</b> , <b>6-4a</b> , <b>6-4</b> , <b>6-5</b> , <b>6-6</b>
<b>6.6.15</b>	Identify and apply order of operations to simplify numeric expressions involving whole numbers.	<b>1-5</b>
<b>6.6.16</b>	Solve problems involving the commutative, distributive, and associative properties of operations on whole numbers [e.g., $(5 \times 7) \times 2 = 5 \times (7 \times 2)$ ].	<b>9-1a</b> , <b>9-1</b>
<b>6.6.17</b>	Make estimates appropriate to a given situation, and analyze what effect the estimation method used has on the accuracy of results.	<b>3-4</b> , <b>3-5b</b> , <b>4-4b</b> , 6-1, <b>6-2</b> , <b>7-1</b> , <b>10-8</b> , <b>PS6</b>
<b>Standard 6D—Ratios, Proportions, and Percents</b>		
<b>6.6.18</b>	Identify and express ratios using appropriate notation (i.e., $\frac{a}{b}$ , $a$ to $b$ , $a:b$ ), identify equivalent ratios, and explain ratios that represent a given situation.	<b>10-1</b> , <b>10-1b</b> , <b>10-2</b> , <b>10-2b</b> , <b>GZ10</b>
<b>6.6.19</b>	Solve problems involving proportional relationships, including unit pricing (e.g., seven apples cost \$1.40, so nine apples cost \$1.80).	<b>10-2</b> , <b>10-2b</b> , <b>GZ10</b>
<b>6.6.20</b>	Read, write, recognize, and model percents from 0% to 100%.	<b>10-4</b> , <b>10-5</b> , <b>10-6</b>
<b>6.6.21</b>	Solve number sentences and problems involving percents.	<b>10-7a</b> , <b>10-7</b> , <b>10-8a</b> , <b>10-8</b>

PS = Prerequisite Skill Appendix (pp. 586–593), SS = Study Skill, GZ = Game Zone

Assessment Objective	Student Edition Lesson(s)
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STATE GOAL 7 MEASUREMENT
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Standards 7A, 7B, 7C—Units, Tools, Estimation, and Applications		
<b>7.6.01</b>	Select and use appropriate standard units and tools to measure length, mass/weight, capacity, and angles.	SS6, 12-1, 12-2, 12-3a, 12-3, GZ12, 12-4, 13-1, 13-2
<b>7.6.02</b>	Solve problems involving the perimeter and area of a triangle, parallelogram, or irregular shape using diagrams, models, and grids or by measuring or using given formulas (may include sketching a figure from its description).	1-8, 4-5, 11-4, 12-1a, 12-1b, 14-1, 14-2a, 14-2, 14-2b
<b>7.6.03</b>	Compare and estimate length (including perimeter), area, volume, weight/mass, and angles ( $0^\circ$ to $180^\circ$ ) using referents.	SS6, 12-1a, 12-1, 12-1b, 12-3a, 12-3, GZ12, 12-4, 12-4b
<b>7.6.04</b>	Determine the volume of a right rectangular prism using an appropriate formula or strategy.	14-5
<b>7.6.05</b>	Solve problems involving unit conversions within the same measurement system for time, length, and weight/mass, including compound units (e.g., 5ft 5in, 2lbs 2oz).	12-2, 12-3a, 12-5
<b>7.6.06</b>	Solve problems involving scale drawings and maps.	10-3, 10-3b

STATE GOAL 8 ALGEBRA
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Standard 8A—Representations, Patterns, and Expressions		
<b>8.6.01</b>	Determine a missing term in a sequence, extend a sequence, and construct and identify a rule that can generate the terms of a given sequence (e.g., 3, 6, 9, . . . is explained by the rule $3n$ , for $n \geq 1$ ).	7-6a, 7-6, 14-5a
<b>8.6.02</b>	Write an expression using variables to represent unknown quantities.	1-6
<b>8.6.03</b>	Evaluate algebraic expressions with up to two whole number variable values (e.g., evaluate $3m + n + 3$ when $m = 4$ and $n = 2$ ).	1-6

Standard 8B—Connections Using Tables, Graphs, and Symbols		
<b>8.6.04</b>	Determine a rule having two operations from an input–output table (e.g., multiply by 3 and add 2).	9-6a, 9-6, 9-7
<b>8.6.05</b>	Select a table of values that satisfies a linear equation, and recognize the ordered pairs on a rectangular coordinate system.	9-7
<b>8.6.06</b>	Translate between different representations (table, written, or pictorial) of whole number relationships.	9-7
<b>8.6.07</b>	Identify graphs of inequalities on a number line.	9-4b

Standards 8C, 8D—Writing, Interpreting, and Solving Equations		
<b>8.6.08</b>	Represent problems with equations and inequalities.	1-7, 9-2a, 9-2, 9-3a, 9-3, GZ9, 9-4, 9-4b, 9-5, 9-5b
<b>8.6.09</b>	Solve for the unknown in an equation with one operation (e.g., $8x = 24$ , $m \div 2 = 25$ ).	1-7, 9-2a, 9-2, 9-3a, 9-3, GZ9, 9-4, 9-5, 9-5b
<b>8.6.10</b>	Solve word problems involving unknown quantities.	1-1, 1-7a, 1-7, 9-2, 9-3, 9-4, 9-5, 9-5b

STATE GOAL 9 GEOMETRY
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Standard 9A—Properties of Single Figures and Coordinate Geometry		
<b>9.6.01</b>	Classify, describe, and sketch regular and irregular two-dimensional shapes according to the number of sides, length of sides, number of vertices, and interior angles.	13-4
<b>9.6.02</b>	Identify and describe three-dimensional shapes (cubes, spheres, cones, cylinders, prisms, and pyramids) according to their characteristics (faces, edges, vertices).	14-4, 14-4b

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Assessment Objective		Student Edition Lesson(s)
<b>9.6.03</b>	Solve problems using properties of triangles and quadrilaterals (e.g., sum of interior angles of a quadrilateral is $360^\circ$ ).	<b>13-4b</b>
<b>9.6.04</b>	Identify, describe, and sketch circles, including radius, diameter, and chord.	<b>4-6</b>
<b>9.6.05</b>	Graph, locate, identify points, describe paths, and plot figures using ordered pairs (first quadrant).	<b>8-6</b>
<b>9.6.06</b>	Identify, describe, and predict results of reflections, translations, and rotations of two-dimensional shapes.	<b>13-5b, 13-6b</b>
<b>9.6.07</b>	Identify and sketch parallel, perpendicular, and intersecting lines.	13-3, 14-1
<b>9.6.08</b>	Identify and sketch acute, right, and obtuse angles.	<b>13-1, 13-2, 13-3a, GZ13</b>

### Standard 9B–Relationships Between and Among Multiple Figures

<b>9.6.09</b>	Identify a three-dimensional object from its net.	14-6
<b>9.6.10</b>	Recognize which attributes (such as shape, perimeter, and area) change or don't change when plane figures are composed, decomposed, or rearranged.	13-6b
<b>9.6.11</b>	Identify congruent and similar figures by visual inspection.	<b>13-6</b>
<b>9.6.12</b>	Determine if figures are similar, and identify relationships between corresponding parts of similar figures.	<b>13-6</b>
<b>9.6.13</b>	Determine the distance between two points on a horizontal or vertical number line.	8-1, 8-2, 8-3

### Standard 9C–Justifications of Conjectures and Conclusions

*This standard is not assessed in isolation. Rather, its essence is assessed indirectly through problems that require this type of thinking.*

### Standard 9D–Trigonometry

*This standard is not assessed on the state assessment until grade 11.*

## STATE GOAL 10 DATA ANALYSIS, STATISTICS, AND PROBABILITY

### Standards 10A, 10B–Data Analysis and Statistics

<b>10.6.01</b>	Read, interpret, and make predictions from data represented in a bar graph, line (dot) plot, Venn diagram (with two circles), chart/table, line graph, or circle graph.	<b>2-1, 2-2a, 2-2, 2-3, 2-4, 2-6, 2-6b, 5-1, 11-5a</b>
<b>10.6.02</b>	Compare different representations of the same data.	<b>2-2, 2-8</b>
<b>10.6.03</b>	Create a bar graph, chart/table, line graph, or circle graph with common referents ( $\frac{1}{4}$ , 50%, .75) for a given set of data.	<b>2-1, 2-2a, 2-2, 2-2b, 2-3, GZ2, 14-3b</b>
<b>10.6.04</b>	Determine the mode, range, median, and mean, given a set of data or a graph.	<b>2-6, 2-6b, 2-7, 2-7b</b>

### Standard 10C–Probability

<b>10.6.05</b>	Solve problems involving the probability of a simple event, including representing the probability as a fraction, decimal, or percent.	<b>11-1a, 11-1, 11-1b, 11-2, 11-3a, 11-3, GZ11, 11-4, 11-5a, 11-5</b>
<b>10.6.06</b>	Apply the fundamental counting principle in a simple problem (e.g., How many different 3-digit numbers can be made with the digits 1, 2, and 2?).	<b>5-4a, 11-2, 11-5a, 11-5</b>

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