

<b>1.0 Common Core: Number Sense</b>	
<b>K1</b>	Understand concepts of number, number theory, and number systems;
<b>K2</b>	Understand numerical computation and estimation techniques;
<b>S1</b>	Apply concepts of number, number theory, and number systems.
<b>S2</b>	Extend numerical computation and estimation techniques to algebraic expressions.
<b>2.0 Common Core: Measurement</b>	
<b>K3</b>	Understand concepts of measurement of one, 2 and 3-dimensional objects using standard and non-standard units and knowledge of accuracy and precision.
<b>K3.1</b>	Understand the relationship between measurements of attributes and dimensions, such as length, area, perimeter, and volume.
<b>K4</b>	Understand relationships of units within measurement systems.
<b>K5</b>	Understand the effect of a scale change on an object's attributes (e.g. perimeter, area, volume, etc.)
<b>S3</b>	Apply the process of measurement to two-and three-dimensional objects using customary and metric units;
<b>3.0 Common Core: Geometry</b>	
<b>K6</b>	Understand the major concepts of Euclidean geometry from a variety of perspectives including coordinate and transformational;
<b>K7</b>	Understand the relationships between Euclidean and other geometries;
<b>K8</b>	Understand how geometric concepts and relationships describe and model mathematical ideas and real-world constructs.
<b>K9</b>	Understand the role of axiomatic systems, logical reasoning, and proofs in different branches of mathematics, such as algebra and geometry;
<b>S8</b>	Use geometric concepts and relationships to describe and model mathematical ideas and real-world constructs;
<b>4.0 Common Core: Statistics</b>	
<b>K10</b>	Understand how descriptive and inferential statistics can display and be used to analyze data, make predications, and make decisions.
<b>K11</b>	Understand the concepts of random variable, distribution functions, and theoretical versus experimental probability and counting principles (decision tree, combinations and permutations, etc.) and how to apply them to real-world situations;
<b>S10</b>	Use both descriptive and inferential statistics to analyze data, make predictions, and make decisions;
<b>S11</b>	Interpret probability in real-world situations, construct sample spaces, model and compare experimental probabilities with mathematical expectations, use probability to make predications;
<b>5.0 Common Core: Algebra</b>	
<b>K12</b>	Understand the major concepts of elementary, linear, and abstract algebra (including symbolic representation, operations, properties, functions, inverses, etc.).
<b>K13</b>	Understand how (that?) algebraic concepts and relationships describe and model mathematical ideas and real-world constructs.

<b>S12</b>	Use algebra to describe patterns, relations, and functions, and to model and solve problems;
<b>S12.1</b>	Apply the concepts of proportional reasoning.
<b>S12.2</b>	Apply the concepts of linear algebra;
<b>S12.3</b>	Apply the major concepts of abstract algebra;
<b>S13</b>	Use mathematical modeling to solve problems from fields such as natural sciences, social sciences, business, and engineering;
<b>6.0 Common Core: Calculus</b>	
<b>K14</b>	Understand calculus as modeling dynamic change, including a conceptual understanding of its basic principles and applications.
<b>7.0 Common Core: Discrete Math</b>	
<b>K15</b>	Understand the major concepts and applications of discrete mathematics, such as graph theory, combinatorics, recurrence relations, linear programming, matrices, etc.
<b>S15</b>	Use counting to enumerate and order; use matrices, finite graphs, and trees to model problem situations; describe basic algorithms for accomplishing tasks;
<b>8.0 Common Core: History</b>	
<b>K16</b>	Know historical development of mathematics that includes the contributions of underrepresented groups and diverse cultures.
<b>9.0 Common Core: Problem Solving</b>	
<b>K17</b>	Understand the processes and strategies of mathematical problem-solving.
<b>S17</b>	Identify, teach, and model problem solving in grades 4-12.
<b>10.0 Common Core: Reasoning</b>	
<b>K18</b>	Understand the structure and processes of mathematical reasoning, such as data collecting, analysis, conjecture, testing, mathematical argument, and verification.
<b>S18</b>	Make and evaluate mathematical conjectures and arguments, and validate their own mathematical thinking.
<b>11.0 Common Core: Discourse</b>	
<b>K19</b>	Understand the structure and processes of both oral and written discourse in mathematics.
<b>S19</b>	Use both oral and written discourse with other teachers to develop and extend teachers' mathematical understanding.
<b>12.0 Common Core: Connections</b>	
<b>K20</b>	Understand mathematical relationships across disciplines and connections within mathematics.
<b>S20</b>	Demonstrate an understanding of mathematical relationships across disciplines and connections within mathematics.

<b>13.0 Common Core: Diversity</b>	
<b>K21</b>	Understand diversity of mathematical learners, including gender, culture, ethnicity, socioeconomic background, language, special needs, and mathematical learning styles.
<b>S21</b>	Affirm and support full participation and continued study of mathematics by all students.
<b>14.0 Common Core: Technology</b>	
<b>K22</b>	Understand how the appropriate use of technology can support the learning of mathematics.
<b>S22.1</b>	Use appropriate technology to support the learning of mathematics. This technology includes, but is not limited to, computers and computer software, calculators, interactive television, distance learning, electronic information resources, and a variety of relevant multimedia.
<b>S22.2</b>	Use a variety of print and electronic resources.
<b>15.0 Common Core: Assessment</b>	
<b>K23</b>	Understand various formative and summative assessment methods, including their strengths and limitations.
<b>S23</b>	Use formative and summative methods to determine students' understanding of mathematics and to monitor their own teaching effectiveness. Teachers are careful to align their instructional and assessment practices. Use formative assessment to monitor student learning and to adjust instructional strategies and activities. Formative assessment includes, but is not limited to, questioning strategies, student writing, student products, and student performance. Use summative assessment to determine student achievement and to evaluate the mathematics program. Summative assessment includes, but is not limited to, teacher-designed tests, criterion-referenced tests, norm-referenced tests, portfolios, projects, and other open-ended student products.
<b>16.0 Common Core: Research Standards</b>	
<b>K24</b>	Be familiar with current research on effective instructional strategies in mathematics education.
<b>K25</b>	Know the current state standards and be familiar with national standards in mathematics.
<b>S25</b>	Use instructional strategies based on current research as well as national, state, and local standards relating to mathematics instruction.
<b>17.0 Common Core: Professionalism</b>	
<b>S26</b>	Work on an interdisciplinary team and in an interdisciplinary environment.
<b>S27</b>	Become involved in the professional community of mathematics educators.