

## SEC K-12 Mathematics Taxonomy

<b>100</b>	<b>Nbr. sense /Properties/ Relationships</b>
<b>200</b>	<b>Operations</b>
<b>300</b>	<b>Measurement</b>
<b>400</b>	<b>Consumer Applications</b>
<b>500</b>	<b>Basic Algebra</b>
<b>600</b>	<b>Advanced Algebra</b>
<b>700</b>	<b>Geometric Concepts</b>
<b>800</b>	<b>Advanced Geometry</b>

<b>900</b>	<b>Data Displays</b>
<b>1000</b>	<b>Statistics</b>
<b>1100</b>	<b>Probability</b>
<b>1200</b>	<b>Analysis</b>
<b>1300</b>	<b>Trigonometry</b>
<b>1400</b>	<b>Special Topics</b>
<b>1500</b>	<b>Functions</b>
<b>1600</b>	<b>Instructional Technology</b>

### Other Coding Conventions

#### Topics:

<b>0</b>	<b>All</b>
<b>999</b>	<b>Out of Subject Area</b>

#### Cognitive Demands:

<b>B</b>	<b>Memorize</b>
<b>C</b>	<b>Perform Procedures</b>
<b>D</b>	<b>Demonstrate Understanding</b>
<b>E</b>	<b>Conjecture/Analyze</b>
<b>F</b>	<b>Solve Non-Routine Problems</b>
<b>Z</b>	<b>Non-Specific Cognitive Demand</b>

K-12 Mathematics Taxonomy

100	Nbr. sense /Properties/ Relationships	300	Measurement
101	Place value	301	Use of measuring instruments
102	Whole numbers and Integers	302	Theory (arbitrary, standard units and unit size)
103	Operations	303	Conversions
104	Fractions	304	Metric (SI) system
105	Decimals	305	Length and perimeter
106	Percents	306	<i>Area</i>
107	Ratio and proportion	307	Surface Area
108	Patterns	308	Direction, Location, Navigation
109	Real and/or Rational numbers	309	Angles
110	Exponents and scientific notation	310	Circles (e.g., pi, radius, area)
111	Factors, multiples, and divisibility	311	Mass (weight)
112	Odd/even/prime/composite/square numbers	312	Time and temperature
113	Estimation	313	Money
114	Number Comparisons (order, magnitude, relative size, inverse, opposites, equivalent forms, scale or number line)	314	Derived measures (e.g., rate and speed)
115	Order of operations	315	Calendar
116	Computational Algorithms	316	Accuracy and Precision
117	Relationships between operations	317	<i>Volume</i>
118	Number Theory (e.g. base-ten and non-base-ten systems)	318	<i>Distance</i>
119	Mathematical properties (e.g., distributive property)	390	Other
190	Other	400	<b>Consumer Applications</b>
200	<b>Operations</b>	401	Simple interest
201	Add/subtract whole numbers and integers	402	Compound interest
202	Multiply whole numbers and integers	403	Rates (e.g., discount and commission)
203	Divide whole numbers and integers	404	Spreadsheets
204	Combinations of operations on whole numbers or integers	490	Other
205	Equivalent and non-equivalent fractions	500	<b>Basic Algebra</b>
206	Add/subtract fractions	501	Absolute value
207	Multiply fractions	502	Use of variables
208	Divide fractions	503	Evaluation of formulas, expressions, and equations
209	Combinations of operations on fractions	504	One-step equations
210	Ratio and proportion	505	<i>Coordinate Plane Plots</i>
211	Representations of fractions	506	Patterns
212	Equivalence of decimals, fractions, and percents	507	Multi-step equations
213	Add/ subtract decimals	508	Inequalities
214	Multiply decimals	509	Linear and non-linear relations
215	Divide decimals	510	Rate of change/slope/line
216	Combinations of operations on decimals	511	Operations on polynomials
217	Computing with percents	512	Factoring
218	Computing with exponents and radicals	513	Square roots and radicals
290	Other	514	Operations on radicals
		515	Rational expressions
		516	Multiple representations
		517	<i>Coordinate Plane Graphs</i>
		590	Other



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<b>600</b>	<b>Advanced Algebra</b>
601	Quadratic equations
602	Systems of equations
603	Systems of inequalities
604	Compound Inequalities
605	Matrices and determinants
606	Conic sections
607	Rational, negative exponents/radicals
608	Rules for exponents
609	Complex numbers
610	Binomial theorem
611	Factor/remainder theorem
612	Field properties of real number system
613	Multiple representations
690	Other
<b>700</b>	<b>Geometric Concepts</b>
701	Basic terminology
702	Points, lines, rays, segments, and vectors
703	Patterns
704	Congruence
705	Similarity
706	Parallels
707	Triangles
708	Quadrilaterals
709	Circles
710	Angles
711	Polygons
712	Polyhedra
713	Models
714	3-D relationships
715	Symmetry
716	Transformations (e.g., flips, turns, dilations)
717	Pythagorean Theorem
790	Other
<b>800</b>	<b>Advanced Geometry</b>
801	Logic, reasoning, and proofs
802	Loci
803	Spheres, cones, and cylinders
804	Coordinate Geometry
805	Vectors
806	Analytic Geometry
807	Non-Euclidean Geometry
808	Topology
809	<u>Geometric Properties</u>
890	Other

<b>900</b>	<b>Data Displays</b>
901	<u>Summarize/Interpret</u> data in a table or graph
902	Bar graph and histograms
903	Pie charts and circle graphs
904	Pictographs
905	Line graphs
906	Stem and Leaf plots
907	Scatter plots
908	Box plots
909	Line plots
910	Classification and Venn diagrams
911	Tree diagrams
912	<u>Tally Charts</u>
990	Other
<b>1000</b>	<b>Statistics</b>
1001	Mean, median, and mode
1002	Variability, standard deviation, and range
1003	Line of best fit
1004	Quartiles and percentiles
1005	Bivariate distribution
1006	Confidence intervals
1007	Correlation
1008	Hypothesis testing
1009	Chi Square
1010	Data Transformation
1011	Central Limit Theorem
1012	<u>Sample Size</u>
1090	Other
<b>1100</b>	<b>Probability</b>
1101	Simple probability
1102	Compound probability
1103	Conditional probability
1104	Empirical probability
1105	Sampling and Sample spaces
1106	Independent vs. dependent events
1107	Expected value
1108	Binomial distribution
1109	Normal curve
1110	<u>Randomness</u>
<b>1200</b>	<b>Analysis</b>
1201	Sequences and series
1202	Limits
1203	Continuity
1204	Rates of change
1205	Maxima, Minima, and Range
1206	Differentiation
1207	Integration
1208	<u>Kinematics</u>
1290	Other

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<b>1300</b>	<b>Trigonometry</b>
1301	Basic ratios
1302	Radian measure
1303	Right triangle trigonometry
1304	Law of Sines and Cosines
1305	Identities
1306	Trigonometric equations
1307	Polar coordinates
1308	Periodicity
1309	Amplitude
1390	Other
<b>1400</b>	<b>Special Topics</b>
1401	Sets
1402	Logic
1403	Mathematical induction
1404	Linear programming
1405	Networks
1406	Iteration and recursion
1407	Permutations & combinations
1408	Simulations
1409	Fractals
1410	<i>Problem-solving Strategies</i>
1490	Other
<b>1500</b>	<b>Functions</b>
1501	Notation
1502	Relations
1503	Linear
1504	Quadratic
1505	Polynomial
1506	Rational
1507	Logarithmic
1508	Exponential
1509	Trigonometric and circular
1510	Inverse
1511	Composition
1512	Definition
1590	Other
<b>1600</b>	<b>Instructional Technology</b>
1601	Use of calculators
1602	Use of graphing calculators
1603	Use of computers and internet
1604	Computer programming
1605	Use of Spreadsheets
1606	<i>Algebraic computer systems</i>
1690	Other



[illegible]