Cord Algebra 1, Learning in Context (3rd edition), Cord Geometry, Learning in Context (3rd edition),
Cord Algebra 2, Learning in Context (1st edition)
correlation to Pennsylvania's Academic Standards for Mathematics

	Cord Algebra 1 Lesson(s)	Cord Geometry Lesson(s)	Cord Algebra 2 Lesson(s)
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to...			
2.1 Numbers, Number Systems and Number Relationships			
2.1.11.A. Use operations such as opposite, reciprocal, absolute value, raising to a power, finding roots and logarithms.	1.3, 1.4, 1.7, 3.6, 5.3, 5.5, 5.6, 9.5, 10.3, 11.3, 11.4, 11.5, 11.6, 13.6		1.1, 1.3, 5.1, 5.3, 8.2, 8.3, 8.4
2.2 Computation and Estimation			
2.2.11.A. Develop and use computation concepts, operations and procedures on real numbers in problem solving situations.	Used throughout the text, especially in Math Applications features		
2.2.11.B. Use estimations to solve problems for which exact answer is not needed.	Used throughout the text, especially in Math Applications features		
2.2.11.C. Construct and apply mathematical models, including lines and curves of best fit, to estimate values of related quantities.	7.3		1.6
2.2.11.D. Describe and explain the amount of error that may exist in a computation using estimates.	2.6, 2.7		
2.2.11.E. Recognize that the degree of precision needed in calculating a number depends on how the results will be used and the instruments used to generate the measure..	2.6, 2.7		
2.2.11.F. Demonstrate skills for using computer spreadsheets and scientific and graphing calculators.	Used throughout the text, especially in Math Labs at the end of each chapter		

2.3 Measurement and Estimation			
2.3.11.A. Select and use appropriate units and tools to measure to the degree of accuracy required in particular measurement situations.	2.6	1.2, 1.3, Math Labs at the end of each chapter	
2.3.11.B. Measure and compare angles in degrees and radians.		1.3	12.2
2.3.11.C. Determine relationships between linear, square and cubic measures and describe how changes in one of the measures of the figure affect the others.		8.6, 10.8	
2.3.11.D. Demonstrate ability to produce measures with specified levels of precision..	2.6	Math Labs at the end of each chapter	
2.4 Mathematical Reasoning and Connections			
2.4.11.A. Select and use appropriate mathematical concepts and techniques from different areas of mathematics and apply them to solving non-routine and multi-step problems.	Used throughout the text, especially in Math Applications features		
2.4.11.B. Construct valid arguments from stated facts.	Students justify steps when simplifying expressions and when solving equations	2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 3.8	Students justify steps when simplifying expressions and when solving equations
2.4.11.C. Determine the validity of an argument.	Students justify steps when simplifying expressions and when solving equations	2.4, 2.5, 2.6	
2.4.11.D. Use truth tables to reveal the logic of mathematical statements.	not covered		
2.4.11.E. Demonstrate mathematical solutions to problems in the physical sciences.	Used throughout the text, especially in Math Applications features		

2.5 Mathematical Problem Solving and Communication			
2.5.11.A. Select and use appropriate mathematical concepts and techniques from different areas of mathematics and apply them to solving non-routine and multistep problems.	Used throughout the text, especially in Math Applications features		
2.5.11.B. Use symbols, mathematical terminology, standard notation, mathematical rules, graphing and other types of mathematical representations to communicate observations, predictions, concepts, procedures, generalizations, ideas and results.	Used throughout the text, especially in Math Applications features		
2.5.11.C. Present mathematical procedures and results clearly, systematically, succinctly and correctly.	Used throughout the text, especially in Math Applications features and Math Labs at the end of each chapter		
2.5.11.D. Conclude a solution process with a summary of results and evaluate the degree to which the results obtained represent an acceptable response to the initial problem and why the reasoning is valid.	Used throughout the text, especially in Math Applications features and Math Labs at the end of each chapter		
2.6 Statistics and Data Analysis			
2.6.11.A. Design and conduct an experiment using random sampling, describe the data as an example of a distribution using statistical measures of center spread, and organize and represent the results with graphs. (Use standard deviation, variance and t-tests.)	6.6, 7.1, 7.6		
2.6.11.B. Use appropriate technology to organize and analyze data taken from the local community.	Chapter 6 Math Labs, Chapter 7 Math Labs		

2.6.11.C. Determine regression equation of best fit (e.g., linear, quadratic, and exponential).	7.3		
2.6.11.D. Make predictions using interpolation, extrapolation, regression, and estimation, using technology.	7.3		1.6
2.6.11.E. Determine the validity of the sampling method described in a given study.	6.6		
2.6.11.F. Determine the degree of dependence of two quantities specified by a two-way table.	not covered		
2.6.11.G. Describe questions of experimental design, use of control groups, treatment groups, cluster sampling and reliability.	not covered		
2.6.11.H. Use sampling techniques to draw inferences about large populations.	6.6		
2.6.11.I. Describe the normal curve and use its properties to answer questions about sets of data that are assumed to be normally distributed.	7.6		
2.7 Probability and Predictions			
2.7.11.A. Compare odds and probability.	not covered		
2.7.11.B. Apply probability and statistics to perform an experiment involving a sample and generalize its results to the entire population.	Chapter 6 Math Labs, Chapter 7 Math Labs	8.7	14.1, 14.2
2.7.11.C. Draw a conclusion regarding the validity of a probability or statistical argument and justify conclusion.	6.1, 6.2, 6.3, 6.4, 6.5, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6	8.7	14.1, 14.2
2.7.11.D. Use experimental and theoretical probability distributions to make judgments about the likelihood of various outcomes in uncertain situations.	6.1, 6.2, 6.3, 6.4, 6.5	8.7	14.1, 14.2

2.7.11.E. Solve problems involving independent simple and compound events.	6.1, 6.2, 6.3, 6.4, 6.5	8.7	14.1, 14.2
2.8 Algebra and Functions			
2.8.11.A. Analyze a given set of data for the existence of a pattern and represent the pattern algebraically and graphically.	1.2, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7	2.1, 7.4	1.4, 1.5, 4.1, 4.4, 4.5
2.8.11.B. Give examples of patterns that occur in data from other disciplines.	Chapter 4 Math Applications	2.1	11.1, 11.2, 11.3, 11.4, 11.5, Chapter 11 Math Applications
2.8.11.C. Use patterns, sequences and series to solve routine and non-routine problems.	1.2	2.1	11.1, 11.2, 11.3, 11.4, 11.5
2.8.11.D. Formulate expression, equations, inequalities, systems of equations, systems of inequalities, and matrices to model routine and non-routine problem situations.	1.6, 1.8, 1.9, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 8.1, 8.2, 8.3, 8.4, 8.5, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7	9.1	1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 3.3, 3.4, 3.5
2.8.11.E. Use equations to represent curves such as lines, circles, ellipses, parabolas and hyperbolas.			1.4, 1.5, 7.2, 7.3, 7.4, 7.5, 7.6
2.8.11.F. Identify whether systems of equations and inequalities are consistent or inconsistent.	8.2		2.1
2.8.11.G. Analyze and explain systems of equations, systems of inequalities and matrices.	8.1, 8.2, 8.3, 8.4, 8.5, 9.6, 9.7		2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 3.3, 3.4, 3.5
2.8.11.H. Select and use an appropriate strategy to solve system systems of equations and inequalities using graphing calculators, symbol manipulators, spreadsheets, and other software.	8.1, 8.2, 8.3, 8.4, 8.5, 9.6, 9.7		2.1, 2.2, 2.3, 2.4, 2.5, 3.5
2.8.11.I. Use matrices to organize and manipulate data, including matrix addition, subtraction, multiplication, and scalar multiplication.	1.6		3.1, 3.2, 3.3, 3.4

2.8.11.J. Demonstrate the connection between algebraic equations and inequalities and the geometry of relations in the coordinate plane.	4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 9.6, 9.7	7.3, 7.4, 7.5, 7.6	1.4, 1.5, 4.1, 4.2, 4.3
2.8.11.K. Select, justify, and apply an appropriate technique to graph a linear function in two variables, including slope-intercept, *x*- and *y*-intercepts, graphing by transformations, and the use of a graphing calculator.	4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7	7.3, 7.4, 7.5	1.4, 1.5, 4.1, 4.2, 4.3, 4.4, 4.5
2.8.11.L. Write the equation of a line when given the graph of the line, two points on the line, or the slope of the line and a point on the line.	4.4, 4.5	7.4	1.4
2.8.11.M. Given a set of data points, write an equation for a line of best fit.	7.3		1.6
2.8.11.N. Solve linear, quadratic, and exponential equations both symbolically and graphically.	3.1, 3.2, 3.3, 3.4, 3.5, 11.1, 11.2, 11.3, 11.4, 11.5, 11.6		1.4, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 8.1, 8.5
2.8.11.O. Determine the domain and range of a relation, given a graph or set of ordered pairs.	5.1, 5.4, 5.5, 11.1		4.1, 4.2, 4.3, 4.4, 4.5
2.8.11.P. Analyze a relation to determine whether a direct or inverse variation exists and represent it algebraically and graphically.	5.3		10.6
2.8.11.Q. Represent functional relationships in tables, charts, and graphs.	5.1, 5.2, 5.3, 5.4, 5.5, 5.6		4.1, 4.2, 4.3, 4.4, 4.5
2.8.11.R. Create and interpret functional models.	5.1, 5.2, 5.3, 5.4, 5.5, 5.6		4.1, 4.2, 4.3, 4.4, 4.5
2.8.11.S. Analyze properties and relationships of functions (linear, polynomial, relational, trigonometric, exponential, and logarithmic).	5.1, 5.2, 5.3, 5.4, 5.5, 5.6		4.1, 4.2, 4.3, 4.4, 4.5, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 8.1, 8.2, 9.1, 10.1, 13.1
2.8.11.T. Analyze and categorize functions by their characteristics.	5.4, 5.5, 5.6		4.1, 4.2, 4.3, 4.4, 4.5, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 8.1, 8.2, 9.1, 10.1, 13.1

2.9 Geometry			
2.9.11.A. Construct geometric figures using dynamic geometry tools (Geometer's Sketchpad, Cabri Geometry, etc.).		Used throughout Math Labs at the end of each chapter	
2.9.11.B. Prove two triangles or two polygons are congruent or similar using algebraic and coordinate as well as deductive proofs.		3.4, 3.5, 3.6, 4.2, 4.3	
2.9.11.C. Identify and prove the properties of quadrilaterals involving opposite sides and angles, consecutive sides and angles, and diagonals using deductive proofs.		6.2, 6.3, 6.4, 6.5, 6.6	
2.9.11.D. Identify corresponding parts in congruent triangles to solve problems.		3.4, 3.5, 3.6, 3.7, 3.8	
2.9.11.E. Solve problems involving inscribed and circumscribed polygons.		9.2, 9.3, 9.4	
2.9.11.F. Use the properties of angles, arcs, chords, tangents, and secant to solve problems involving circles.		9.2, 9.3, 9.4, 9.5	
2.9.11.G. Solve problems using analytic geometry.		7.1, 7.2, 7.3, 7.4, 7.5, 7.6	
2.9.11.H. Construct a geometric figure and its image using various transformations.		11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.7	
2.9.11.I. Model situations geometrically to formulate and solve problems.		Used throughout the text	
2.9.11.J. Analyze figures in terms of the kinds of symmetries they have.		11.1, 11.3	

2.10 Trigonometry			
2.10.11.A. Use graphing calculators to display periodic and circular functions; describe properties of the graphs.			13.1
2.10.11.B. Identify, create, and solve practical problems involving right triangles using the trigonometric functions and the Pythagorean Theorem.	13.2, 13.4, 13.5	5.2, 5.3, 5.4, 5.5	12.1, 12.2, 12.3, 12.4
2.11 Concepts of Calculus			
2.11.11.A. Determine maximum and minimum values of a function over a specified interval.	11.2		6.1
2.11.11.B. Interpet maximum and minimum values in problem situations.	11.2		6.1
2.11.11.C. Graph and interpret rates of growth/decay.	5.6		8.1, 8.5, 8.6
2.11.11.D. Determine sums of the finite sequences of numbers and infinite geometric series.			11.2, 11.3, 11.4
2.11.11.E. Estimate areas under curves using sequences of areas.	not covered		