NCTM Standards	Instructional programs from prekindergarten through grade 12 should enable all students to—	Time	Money	Addition	Fractions	Multiples	The Number Chart	Inch Measurement	Centimeter Measurement	Multiplication	Square Numbers	Symmetry	Perimeter	Area	Place Value
		Math Art Lessons (first 14)													
Number and Operations	understand numbers, ways of representing numbers, relationships among numbers, and number systems.		✓	✓	✓	✓	✓			✓	✓			✓	✓
	understand meanings of operations and how they relate to one another.			✓		✓				✓					
	compute fluently and make reasonable estimate.			✓						✓					
Algebra	understand patterns, relations, and functions.		✓			✓	✓								✓
	represent and analyze mathematical situations and structures using algebraic symbols.														
	use mathematical models to represent and understand quantitative relationships.														
	analyze change in various contexts.														
Geometry	analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.												✓	✓	
	specify locations and describe spatial relationships using coordinate geometry and other representational systems.														
	apply transformations and use symmetry to analyze mathematical situations.											✓			
	use visualization, spatial reasoning, and geometric modeling to solve problems.				✓					✓	✓	✓	✓	✓	
Measurement	understand measurable attributes of objects and the units, systems, and processes of measurement.	✓						✓	✓				✓	✓	
	apply appropriate techniques, tools, and formulas to determine measurements.							✓	✓				✓	✓	
Data Analysis and Probability	formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.														
	select and use appropriate statistical methods to analyze data.														
	develop and evaluate inferences and predictions that are based on data.														
	understand and apply basic concepts of probability.														

	NCTM Standards	Math Art Lessons (first 14)													
	Instructional programs from prekindergarten through grade 12 should enable all students to—	Time	Money	Addition	Fractions	Multiples	The Number Chart	Inch Measurement	Centimeter Measurement	Multiplication	Square Numbers	Symmetry	Perimeter	Area	Place Value
Problem Solving	build new mathematical knowledge through problem solving.						✓								
	solve problems that arise in mathematics and in other contexts.											✓		✓	
	apply and adapt a variety of appropriate strategies to solve problems.														
	monitor and reflect on the process of mathematical problem solving.														
Reasoning and Proof	recognize reasoning and proof as fundamental aspects of mathematics.			✓						✓	✓		✓	✓	
	make and investigate mathematical conjectures.					✓									
	develop and evaluate mathematical arguments and proofs.												✓	✓	
	select and use various types of reasoning and methods of proof.														
Communication	organize and consolidate their mathematical thinking through communication.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	communicate their mathematical thinking coherently and clearly to peers, teachers, and others.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	analyze and evaluate the mathematical thinking and strategies of others.						✓								
	use the language of mathematics to express mathematical ideas precisely.	✓	✓		✓						✓		✓	✓	✓
Connections	recognize and use connections among mathematical ideas.		✓		✓	✓					✓			✓	✓
	understand how mathematical ideas interconnect and build on one another to produce a coherent whole.		✓			✓					✓			✓	
	recognize and apply mathematics in contexts outside of mathematics.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Representation	create and use representations to organize, record, and communicate mathematical ideas.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	select, apply, and translate among mathematical representations to solve problems.		✓									✓		✓	
	use representations to model and interpret physical, social, and mathematical phenomena.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

NCTM Standards	Instructional programs from prekindergarten through grade 12 should enable all students to—	Perp. & Parallel Lines	Angles	Shapes	Data & Graphs	Similar Triangles	Prisms and Pyramids	Volume	Percents	Fractions of A Set	Map Scale	Rot. / Trans. / Reflections	Division	Radius of a Circle
Number and Operations	understand numbers, ways of representing numbers, relationships among numbers, and number systems.								✓	✓			✓	
	understand meanings of operations and how they relate to one another.								✓	✓			✓	
	compute fluently and make reasonable estimate.							✓	✓	✓				
Algebra	understand patterns, relations, and functions.							✓		✓				
	represent and analyze mathematical situations and structures using algebraic symbols.								✓					
	use mathematical models to represent and understand quantitative relationships.													
	analyze change in various contexts.		✓		✓			✓		✓				
Geometry	analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.	✓	✓	✓		✓	✓	✓						✓
	specify locations and describe spatial relationships using coordinate geometry and other representational systems.				✓									
	apply transformations and use symmetry to analyze mathematical situations.											✓		
	use visualization, spatial reasoning, and geometric modeling to solve problems.	✓	✓	✓		✓	✓	✓		✓		✓	✓	✓
Measurement	understand measurable attributes of objects and the units, systems, and processes of measurement.		✓					✓			✓			✓
	apply appropriate techniques, tools, and formulas to determine measurements.		✓					✓			✓			✓
Data Analysis and Probability	formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.							✓						
	select and use appropriate statistical methods to analyze data.				✓									
	develop and evaluate inferences and predictions that are based on data.				✓									
	understand and apply basic concepts of probability.													

Math Art Lessons (final 13)

	NCTM Standards	Math Art Lessons (final 13)												
	Instructional programs from prekindergarten through grade 12 should enable all students to—	Perp. & Parallel Lines	Angles	Shapes	Data & Graphs	Similar Triangles	Prisms and Pyramids	Volume	Percents	Fractions of A Set	Map Scale	Rot. / Trans. / Reflections	Division	Radius of a Circle
Problem Solving	build new mathematical knowledge through problem solving.												✓	
	solve problems that arise in mathematics and in other contexts.		✓										✓	
	apply and adapt a variety of appropriate strategies to solve problems.												✓	
	monitor and reflect on the process of mathematical problem solving.													
Reasoning and Proof	recognize reasoning and proof as fundamental aspects of mathematics.	✓				✓		✓	✓	✓				
	make and investigate mathematical conjectures.					✓		✓	✓					
	develop and evaluate mathematical arguments and proofs.													
	select and use various types of reasoning and methods of proof.													
Communication	organize and consolidate their mathematical thinking through communication.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	communicate their mathematical thinking coherently and clearly to peers, teachers, and others.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	analyze and evaluate the mathematical thinking and strategies of others.										✓			
	use the language of mathematics to express mathematical ideas precisely.	✓							✓	✓				✓
Connections	recognize and use connections among mathematical ideas.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	
	understand how mathematical ideas interconnect and build on one another to produce a coherent whole.		✓	✓	✓			✓	✓	✓				
	recognize and apply mathematics in contexts outside of mathematics.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Representation	create and use representations to organize, record, and communicate mathematical ideas.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	select, apply, and translate among mathematical representations to solve problems.					✓								
	use representations to model and interpret physical, social, and mathematical phenomena.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓