CASE

Introduction to Agriculture, Food, and Natural Resources
Common Core State Standards for High School Mathematics Alignment

		Unit 1 The Circles of Agricultural	Unit 2 Communicating	Unit 3 The Science of Agriculture	Unit 4 Natural Resources	Unit 5 Plants and Animals	Unit 6 Agricultural Power and	Unit 7 Looking Ahead
CCSS: Conceptual Category – Number and Quantity								
The Real Number System	• Extend the properties of exponents to rational exponents.							
	• Use properties of rational and irrational numbers.							
Quantities	• *Reason quantitatively and use units to solve problems.			x	x	x	x	
The Complex Number System	• Perform arithmetic operations with complex numbers.							
	• Represent complex numbers and their operations on the complex plane.							
	• Use complex numbers in polynomial identities and equations.							
Vector and Matrix Quantities	• Represent and model with vector quantities.							
	• Perform operations on vectors.							
	• Perform operations on matrices and use matrices in applications.							
CCSS: Conceptual Category – Algebra								
Seeing Structure in Expressions	• *Interpret the structure of expressions.				x			
	• *Write expressions in equivalent forms to solve problems.			x	x	x	x	
Arithmetic with Polynomials and Rational Expressions	• Perform arithmetic operations on polynomials.			x				
	• Understand the relationship between zeros and factors of polynomials.							
	• Use polynomial identities to solve problems.							
	• Rewrite rational expressions.							
Creating Equations	• *Create equations that describe numbers or relationships.							
Reasoning with Equations and Inequalities	• Understand solving equations as a process of reasoning & explain the reasoning.					x	x	
	• Solve equations and inequalities in one variable.					x	x	
	• Solve systems of equations.							
	• *Represent and solve equations and inequalities graphically.							

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CCSS: Conceptual Category – Geometry								
Congruence	• Experiment with transformations in the plane.							
	• Understand congruence in terms of rigid motions.							
	• Prove geometric theorems.							
	• Make geometric constructions.							
Similarity, Right Triangles, and Trigonometry	• Understand similarity in terms of similarity transformations.							
	• Prove theorems involving similarity.							
	• *Define trigonometric ratios and solve problems involving right triangles.							
	• Apply trigonometry to general triangles.							
Circles	• Understand and apply theorems about circles.							
	• Find arc lengths and areas of sectors of circles.							
Expressing Geometric Properties with Equations	• Translate between the geometric description and the equation for a conic section.							
	• *Use coordinates to prove simple geometric theorems algebraically.							
Geometric Measurement and Dimension	• *Explain volume formulas and use them to solve problems.							
	• Visualize relationships between two-dimensional and three-dimensional objects.						x	
Modeling with Geometry	• *Apply geometric concepts in modeling situations.						x	
CCSS: Conceptual Category – Statistics and Probability								
Interpreting Categorical and Quantitative Data	• *Summarize, represent, and interpret data on a single count or measurement variable.			x		x		
	• *Summarize, represent, and interpret data on two categorical and quantitative variables.							
	• *Interpret linear models.							
Making Inferences and Justifying Conclusions	• *Understand and evaluate random processes underlying statistical experiments.							
	• *Make inferences and justify conclusions from sample surveys, experiments, and observational studies.			x		x		
Conditional Probability and the Rules of Probability	• *Understand independence and conditional probability and use them to interpret data.							
	• *Use the rules of probability to compute probabilities of compound events in a uniform probability model.							
Using Probability to Make Decisions	• *Calculate expected values and use them to solve problems.							
	• *Use probability to evaluate outcomes of decisions.							