Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Number and Quantity
CCSS Domain: The Real Number System (N-RN)
Show-Me Standards

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Extend the properties of exponents to rational exponents	use fractions, decimals and percent's to solve problems.	MA 5 3.3	Skill/Concept	When presented numerical data, students will use math operations to set up and solve problems.	teacher observation, class assignments and quizzes and/or tests
	recognize equivalent representations for the same number and generate them by decomposing and composing numbers, including exponential notation.	MA 5 1.6			
	judge the reasonableness of numerical operations and their results.	MA 1 3.2			
	solve problems involving proportions.	MA 1 3.2			

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CCSS Domain: The Real Number System (N-RN)
Show-Me Standards

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Use properties of rational and irrational numbers	describe numbers according to their characteristics, including whole number common factors and multiples.	MA 5 1.10	Skill/Concept	When presented with rational and irrational numbers, students will be to solve problems.	classroom assignment

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Number and Quantity
CCSS Domain: Quantities (N-Q)
Show-Me Standards

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Reason quantitatively and use units to solve problems	describe the effects of operations, such as multiplication and division, and computing powers and roots on the magnitude of quantities. apply properties of operations to all rational numbers including order of operations and inverse operations.	MA 1 1.10	Skill/Concept	Use subtraction to check addition and use division to check multiplication to solve problems.	whiteboard and classroom assignment

Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Number and Quantity
CCSS Domain: The Complex Number System (N-CN)
Show-Me Standards

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Perform arithmetic operations with complex numbers	apply operations to real numbers using mental math, paper and pencil calculation for simple cases and technology for more complicated cases.	MA 1 1.10	Skill/Concept	When presented with problems, students will be able to solve them using paper and pencil or calculators.	quiz

Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Number and Quantity
CCSS Domain: The Complex Number System (N-CN)
Show-Me Standards

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Represent complex numbers and their operations on the complex plane	identify and apply operations on all complex numbers.	MA 1 3.1	Skill/Concept	When presented with complex numbers, students will be able to identify and apply all operations to complex numbers.	classwork, quizzes and/or tests

Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Algebra
CCSS Domain: Seeing Structure in Expressions (A-SSE)
Show-Me Standards

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Interpret the structure of expressions	generalize patterns represented graphically or numerically with words or symbolic rules using explicit notation. compare and contrast various forms of representations of patterns.	MA 4 1.6	Skill/Concept	When presented with various patterns, students will be able to interpret the structure of the expression.	classwork, quizzes and/or tests

Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Algebra
CCSS Domain: Seeing Structure in Expressions (A-SSE)

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Write expressions in equivalent forms to solve problems	identify functions as linear or nonlinear from tables, graphs or equations.	MA 4 1.6	Recall	Reading a graph- will determine the purpose and interpret the information.	questioning

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Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Geometry
CCSS Domain: Congruence (G-CO)
Show-Me Standards

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Experiment with transformations in the plane	reposition shapes under formal transformations, such as reflection, rotation and translation.	MA 2 3.3	Skill/Concept	When presented with shapes, students will be able to use reflections, rotation and translation.	classwork, quizzes and/or tests

Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Geometry
CCSS Domain: Similarity, Right Triangles, and Trigonometry (G-SRT)
Show-Me Standards

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Understand similarity in terms of similarity transformations	describe the relationship between the scale factor and the area of the image using a dilation.	MA 2 3.6	Skill/Concept	Reason abstractly the property of dilations given by a center and scale factor.	think, pair, share

Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Geometry
CCSS Domain: Similarity, Right Triangles, and Trigonometry (G-SRT)

Show-Me Standards

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Prove theorems involving similarity	identify the number of rotational symmetries of regular polygons.	MA 2 1.6	Recall	Given two figures, students will use appropriate tool strategies.	teacher observation

Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Geometry
CCSS Domain: Expressing Geometric Properties with Equations (G-GPE)
Show-Me Standards

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Translate between the geometric description and the equation for a conic section	use coordinate geometry to analyze properties of right triangles and quadrilaterals.	MA 2 3.2	Skill/Concept	Given the coordinate of two points on a plane, students will be able to calculate the distance between two points.	classwork, quizzes and/or tests

Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Geometry
CCSS Domain: Geometric Measurement and Dimension (G-GMD)
Show-Me Standards

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Visualize relationships between two-dimensional and three-dimensional objects	describe, classify and generalize relationships between and among types of 2-dimensional objects and 3-dimensional objects using their defining properties including Pythagorean Theorem.	MA 2 1.6	Skill/Concept	Given problems that involve angle relationships and Pythagorean Theorem, students will solve the problems.	observation

Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Geometry
CCSS Domain: Modeling with Geometry (G-MG)

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Apply geometric concepts in modeling situations	describe relationships between correspondence sides, corresponding angles and corresponding of similar polygons.	MA 2 1.6	Recall	Given multi-step problems in two-dimension that involve geometric properties, students will solve them.	classroom assignments, quizzes and/or tests

Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Statistics and Probability
CCSS Domain: Interpreting Categorical and Quantitative Data (S-ID)
Show-Me Standards

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Summarize, represent, and interpret data on a single count or measurement variable	formulate questions, design studies and collect data about a characteristic.	MA 3 1.2	Skill/Concept	Collect data about various living spaces and formulate questions.	group work

Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Statistics and Probability
CCSS Domain: Interpreting Categorical and Quantitative Data (S-ID)
Show-Me Standards

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Interpret linear models	select, create and use appropriate graphical representation of data.	MA 3 1.8	Skill/Concept	When presented with data, students will create a circle graph, table and bar graph to organize the data.	group work

Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Statistics and Probability
CCSS Domain: Making Inferences and Justifying Conclusions (S-IC)
Show-Me Standards

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Understand and evaluate random processes underlying statistical experiments	understand measures of center, outliers and spread, including range and interquartile range.	MA 3 1.10	Skill/Concept	When given random processes of underlying statistical experiments, students will understand them.	teacher observation

Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Statistics and Probability
CCSS Domain: Making Inferences and Justifying Conclusions (S-IC)

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Make inferences and justify conclusions from sample surveys, experiments, and observational studies	compare different representations of the same data and evaluate how well each representation shows the important aspects of the data.	MA 3 1.10	Strategic Thinking	When presented with conclusions from sample surveys, experiments and observational studies, students will evaluate and show the importance of the data.	teacher observation

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Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Statistics and Probability
CCSS Domain: Conditional Probability and the Rules of Probability (S-CP)

Show-Me Standards

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Understand independence and conditional probability and use them to interpret data	describe events as subsets of a sample space using characteristics of the outcomes.	MA 3 3.5	Strategic Thinking	When given simulations, students will create frequency tables.	group work

Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Conceptual Category: Statistics and Probability
CCSS Domain: Conditional Probability and the Rules of Probability (S-CP)

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Use the rules of probability to compute probabilities of compound events in a uniform probability model	use models to compute the probability of an event and make conjectures about the results of experiments.	MA 3 3.8	Skill/Concept	When given a set of data, students will use the rules of probability to use compound events in a uniform probability model.	classwork, quizzes and/or tests

Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Domain Measurement and Data (MD)

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Work with time and money	solve problems involving addition and subtraction of time. solve problems involving elapsed time.	MA 5 3.1	Skill/Concept	When given a starting time and an ending time, students will be able to calculate elapsed time.	think/pair/share

Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Domain Measurement and Data (MD)
Show-Me Standards-Knowledge Standards/Content Standards

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Convert like measurement units within a given measurement system	identify equivalent area measures within a system of measurement.	MA 2 1.6	Recall	When given total area, students will be able to convert the area in a like measurement.	think/pair/share

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Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)					
CCSS Domain Measurement and Data (MD)					
CCSS Cluster	**Common Core Standard**	**Show Me Standards**	**DOK**	**Instructional Strategies Student Activities/Resources**	**Assessment**
	The students will:				
Represent and interpret data	solve problems involving addition and subtraction of time (hours, minutes and seconds). using a ruler, draw lines to corresponding lengths.	MA 5 3.1	Skill/Concept	Using an analog clock, students will solve problems of elapsed time to the hour/minute, and of addition and subtraction of time to the hour/minute. Draw lines that correspond to lengths that are given to the students.	questions think/pair/share

Mathematics Curriculum

Subject Area: Intermediate Math III (9-12)
CCSS Domain Measurement and Data (MD)

CCSS Cluster	Common Core Standard	Show Me Standards	DOK	Instructional Strategies Student Activities/Resources	Assessment
	The students will:				
Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition	identify and justify the unit of measure for volume.	MA 2 1.6	Skill/Concept	When given total volume needed, students will be able to determine the necessary measurement for volume.	classwork, quizzes and/or tests
	solve problems of angle measure, including those involving triangles and parallel lines cut by a transversal.	MA 2 3.2		When given shapes and parallel lines, students will be able to solve problems of angle measurement.	
	determine the surface area and volume of geometric figures, including cones, spheres and cylinders.	MA 2 1.10		When given different shapes, students will be able to determine the surface area.	