

Salesian International School 2024-2025 Module Rubric					
Year	10	Course	AG Mathematics	Credits	5
Term	1	Exam		End of unit assessment	
Unit Title	Sets				Required Materials
Unit Summary	Students will explore the fundamentals of sets, including set notation and the various operations on sets. They will gain an understanding of Venn diagrams, the concept of universal sets, complements, and subsets. Students will learn how to perform operations like intersection and union of two sets, and they will apply these concepts to solve problems in real-world contexts. By the end of the unit, students will have a solid foundation in set theory and its practical applications.				<i>Think! Mathematics G3 4A (8th Ed.)</i> (Textbook and Workbook) Notebook, writing utensil, iPad, internet access.
Assessment Basis					Unit Content
	Knowledge Fundamentals	Application Communication	Inquiry Creativity	Key Topics Covered:	
Research Level 3: Creative Thought	A3 <ul style="list-style-type: none"> I can identify patterns, make generalizations, and connect mathematical concepts across different topics. I can develop and justify efficient strategies to solve complex, multi-step problems. I can apply mathematics in unfamiliar contexts and create models to represent real-world situations. 	B3 <ul style="list-style-type: none"> I can compare and present multiple methods for solving problems and justify my choices. I can collaborate with others to refine and explain mathematical reasoning, including different problem-solving approaches. I can effectively use mathematical representations and visuals (graphs, equations, diagrams, technology) to communicate reasoning and solutions. 	C3 <ul style="list-style-type: none"> I can design and pose mathematical problems or challenges related to studied concepts. I can formulate and test conjectures by exploring relationships between variables. I can solve complex and non-routine mathematical problems, requiring deep reasoning, abstraction, or original problem-solving strategies. These problems represent the highest level of challenge in assessments. 	<ul style="list-style-type: none"> Sets and set notations Venn diagrams, universal sets, complements of sets and subsets Intersection and union of two sets Applications of sets in real-world contexts Learning Objectives: Students would be able to: <ul style="list-style-type: none"> Understand and use basic set notations (e.g., \in, \subseteq, \emptyset, etc.) Represent sets and solve problems using Venn diagrams, including universal sets, complements, and subsets Perform operations on sets such as intersection, union, and difference Apply set theory concepts to solve problems in various real-world contexts Recognize the importance and utility of sets in mathematics and other disciplines 	
Application Level 2: Critical Thought	A2 <ul style="list-style-type: none"> I can analyze mathematical structures, properties, and relationships to apply them in different contexts. I can use appropriate mathematical techniques, formulas, and reasoning to solve problems accurately. I can apply mathematical formulae and strategies to solve intermediate multi-step problems. 	B2 <ul style="list-style-type: none"> I can interpret and clearly explain the steps in my problem-solving process. I can justify my calculations, solutions, and conclusions using logical reasoning and appropriate mathematical language. I can construct arguments and, where appropriate, use proof or counterexamples to support my reasoning and application of concepts and procedures. 	C2 <ul style="list-style-type: none"> I can identify and explore patterns in mathematical problems and real-world applications. I can apply mathematical concepts to solve practical problems, including interdisciplinary connections. I can analyze data and relationships between variables to make predictions and draw conclusions. 		
Foundation Level 1: Logical Thought	A1 <ul style="list-style-type: none"> I can recognize and use basic mathematical concepts, symbols, and operations relevant to the topic. I can perform fundamental calculations and procedures. I can apply mathematical formulae and strategies to solve problems. 	B1 <ul style="list-style-type: none"> I can use correct notation and symbols to represent mathematical expressions, equations, and relationships. I can describe the steps I take to solve problems and explain my reasoning clearly. I can reflect on my mistakes and adjust my approach when solving problems. I can communicate mathematical solutions using correct mathematical language. 	C1 <ul style="list-style-type: none"> I can ask relevant questions to clarify and deepen my understanding of mathematical concepts. I can follow structured procedures to investigate mathematical ideas and solve problems. I can use mathematical tools (e.g., diagrams, graphs, equations, technology) to explore and validate concepts. 	Notes, Means of Assessment	
	Basics	Development	Judgment	<ul style="list-style-type: none"> PBL Formative Assessments End of unit assessment IXL 	

Salesian International School 2024-2025 Module Rubric					
Year	10	Course	AG Mathematics	Credits	5
Term	1	Exam		End of unit assessment	
Unit Title	Probability of Combined Events				Required Materials
Unit Summary	In this unit, students will develop an understanding of probability, beginning with single events and extending to combined events. They will explore fundamental probability laws, including the Addition Law for mutually exclusive events and the Multiplication Law for independent events. Through practical examples and problem-solving exercises, students will learn to analyze different scenarios involving probability and apply these concepts in real-world contexts.				<i>Think! Mathematics G3 4A (8th Ed.)</i> (Textbook and Workbook) Notebook, writing utensil, iPad, internet access.
Assessment Basis					Unit Content
	Knowledge Fundamentals	Application Communication	Inquiry Creativity		
Research Level 3: Creative Thought	A3 <ul style="list-style-type: none"> I can identify patterns, make generalizations, and connect mathematical concepts across different topics. I can develop and justify efficient strategies to solve complex, multi-step problems. I can apply mathematics in unfamiliar contexts and create models to represent real-world situations. 	B3 <ul style="list-style-type: none"> I can compare and present multiple methods for solving problems and justify my choices. I can collaborate with others to refine and explain mathematical reasoning, including different problem-solving approaches. I can effectively use mathematical representations and visuals (graphs, equations, diagrams, technology) to communicate reasoning and solutions. 	C3 <ul style="list-style-type: none"> I can design and pose mathematical problems or challenges related to studied concepts. I can formulate and test conjectures by exploring relationships between variables. I can solve complex and non-routine mathematical problems, requiring deep reasoning, abstraction, or original problem-solving strategies. These problems represent the highest level of challenge in assessments. 	Key Topics Covered: <ul style="list-style-type: none"> Probability of single event Probability of combined events Addition Law of Probability and mutually exclusive events Multiplication Law of Probability and independent events Learning Objectives: Students would be able to: <ul style="list-style-type: none"> Determine the probability of a single event occurring. Calculate the probability of combined events using appropriate methods. Apply the Addition Law of Probability to solve problems involving mutually exclusive events. Apply the Multiplication Law of Probability to solve problems involving independent events. Interpret and analyze probability problems in real-world contexts. 	
Application Level 2: Critical Thought	A2 <ul style="list-style-type: none"> I can analyze mathematical structures, properties, and relationships to apply them in different contexts. I can use appropriate mathematical techniques, formulas, and reasoning to solve problems accurately. I can apply mathematical formulae and strategies to solve intermediate multi-step problems. 	B2 <ul style="list-style-type: none"> I can interpret and clearly explain the steps in my problem-solving process. I can justify my calculations, solutions, and conclusions using logical reasoning and appropriate mathematical language. I can construct arguments and, where appropriate, use proof or counterexamples to support my reasoning and application of concepts and procedures. 	C2 <ul style="list-style-type: none"> I can identify and explore patterns in mathematical problems and real-world applications. I can apply mathematical concepts to solve practical problems, including interdisciplinary connections. I can analyze data and relationships between variables to make predictions and draw conclusions. 		
Foundation Level 1: Logical Thought	A1 <ul style="list-style-type: none"> I can recognize and use basic mathematical concepts, symbols, and operations relevant to the topic. I can perform fundamental calculations and procedures. I can apply mathematical formulae and strategies to solve problems. 	B1 <ul style="list-style-type: none"> I can use correct notation and symbols to represent mathematical expressions, equations, and relationships. I can describe the steps I take to solve problems and explain my reasoning clearly. I can reflect on my mistakes and adjust my approach when solving problems. I can communicate mathematical solutions using correct mathematical language. 	C1 <ul style="list-style-type: none"> I can ask relevant questions to clarify and deepen my understanding of mathematical concepts. I can follow structured procedures to investigate mathematical ideas and solve problems. I can use mathematical tools (e.g., diagrams, graphs, equations, technology) to explore and validate concepts. 	Notes, Means of Assessment	
	Basics	Development	Judgment	<ul style="list-style-type: none"> PBL Formative Assessments End of unit assessment IXL 	

Salesian International School 2024-2025 Module Rubric					
Year	10	Course	AG Mathematics	Credits	5
Term	1	Exam		End of unit assessment	
Unit Title	Statistical Data Analysis				Required Materials
Unit Summary	In this unit, students will explore statistical data analysis techniques, focusing on methods for organizing, summarizing, and interpreting data. They will learn to construct cumulative frequency tables and curves, determine key statistical measures such as the median, quartiles, percentiles, range, and interquartile range, and represent data visually using box-and-whisker plots. Additionally, students will develop an understanding of standard deviation as a measure of data dispersion, enabling them to analyze data distributions effectively in various real-world contexts.				<i>Think! Mathematics G3 4A (8th Ed.)</i> (Textbook and Workbook) Notebook, writing utensil, iPad, internet access.
Assessment Basis					Unit Content
	Knowledge Fundamentals	Application Communication	Inquiry Creativity		
Research Level 3: Creative Thought	A3 <ul style="list-style-type: none"> I can identify patterns, make generalizations, and connect mathematical concepts across different topics. I can develop and justify efficient strategies to solve complex, multi-step problems. I can apply mathematics in unfamiliar contexts and create models to represent real-world situations. 	B3 <ul style="list-style-type: none"> I can compare and present multiple methods for solving problems and justify my choices. I can collaborate with others to refine and explain mathematical reasoning, including different problem-solving approaches. I can effectively use mathematical representations and visuals (graphs, equations, diagrams, technology) to communicate reasoning and solutions. 	C3 <ul style="list-style-type: none"> I can design and pose mathematical problems or challenges related to studied concepts. I can formulate and test conjectures by exploring relationships between variables. I can solve complex and non-routine mathematical problems, requiring deep reasoning, abstraction, or original problem-solving strategies. These problems represent the highest level of challenge in assessments. 	Key Topics Covered: <ul style="list-style-type: none"> Cumulative frequency table and curve Median, quartiles, percentiles, range, and interquartile range Box-and-whisker plots Standard deviation Learning Objectives: Students would be able to: <ul style="list-style-type: none"> Construct and interpret cumulative frequency tables and curves. Calculate and analyze statistical measures such as the median, quartiles, percentiles, range, and interquartile range. Create and interpret box-and-whisker plots to represent data distributions. Compute and interpret standard deviation as a measure of data dispersion. Apply statistical analysis techniques to summarize and compare real-world data sets. 	
Application Level 2: Critical Thought	A2 <ul style="list-style-type: none"> I can analyze mathematical structures, properties, and relationships to apply them in different contexts. I can use appropriate mathematical techniques, formulas, and reasoning to solve problems accurately. I can apply mathematical formulae and strategies to solve intermediate multi-step problems. 	B2 <ul style="list-style-type: none"> I can interpret and clearly explain the steps in my problem-solving process. I can justify my calculations, solutions, and conclusions using logical reasoning and appropriate mathematical language. I can construct arguments and, where appropriate, use proof or counterexamples to support my reasoning and application of concepts and procedures. 	C2 <ul style="list-style-type: none"> I can identify and explore patterns in mathematical problems and real-world applications. I can apply mathematical concepts to solve practical problems, including interdisciplinary connections. I can analyze data and relationships between variables to make predictions and draw conclusions. 		
Foundation Level 1: Logical Thought	A1 <ul style="list-style-type: none"> I can recognize and use basic mathematical concepts, symbols, and operations relevant to the topic. I can perform fundamental calculations and procedures. I can apply mathematical formulae and strategies to solve problems. 	B1 <ul style="list-style-type: none"> I can use correct notation and symbols to represent mathematical expressions, equations, and relationships. I can describe the steps I take to solve problems and explain my reasoning clearly. I can reflect on my mistakes and adjust my approach when solving problems. I can communicate mathematical solutions using correct mathematical language. 	C1 <ul style="list-style-type: none"> I can ask relevant questions to clarify and deepen my understanding of mathematical concepts. I can follow structured procedures to investigate mathematical ideas and solve problems. I can use mathematical tools (e.g., diagrams, graphs, equations, technology) to explore and validate concepts. 	Notes, Means of Assessment	
	Basics	Development	Judgment	<ul style="list-style-type: none"> PBL Formative Assessments End of unit assessment IXL 	

Salesian International School 2024-2025 Module Rubric					
Year	10	Course	AG Mathematics	Credits	5
Term	2	Exam		End of unit assessment	
Unit Title	Matrices				Required Materials
Unit Summary	In this unit, students will be introduced to the fundamental concepts of matrices and their operations. They will explore matrix addition, subtraction, and multiplication, understanding the rules and properties governing these operations. Students will also examine how matrices are applied in real-world contexts, such as transformations and data organization. By the end of the unit, students will develop a solid foundation in matrix algebra and its practical applications.				<i>Think! Mathematics G3 4A (8th Ed.)</i> (Textbook and Workbook) Notebook, writing utensil, iPad, internet access.
Assessment Basis					Unit Content
	Knowledge Fundamentals	Application Communication	Inquiry Creativity		
Research Level 3: Creative Thought	A3 <ul style="list-style-type: none"> I can identify patterns, make generalizations, and connect mathematical concepts across different topics. I can develop and justify efficient strategies to solve complex, multi-step problems. I can apply mathematics in unfamiliar contexts and create models to represent real-world situations. 	B3 <ul style="list-style-type: none"> I can compare and present multiple methods for solving problems and justify my choices. I can collaborate with others to refine and explain mathematical reasoning, including different problem-solving approaches. I can effectively use mathematical representations and visuals (graphs, equations, diagrams, technology) to communicate reasoning and solutions. 	C3 <ul style="list-style-type: none"> I can design and pose mathematical problems or challenges related to studied concepts. I can formulate and test conjectures by exploring relationships between variables. I can solve complex and non-routine mathematical problems, requiring deep reasoning, abstraction, or original problem-solving strategies. These problems represent the highest level of challenge in assessments. 	Key Topics Covered: <ul style="list-style-type: none"> Introduction to Matrices Addition and subtraction of matrices Matrix multiplication Application of matrices in real-world context Learning Objectives: Students would be able to: <ul style="list-style-type: none"> Understand the concept of matrices and their notations. Perform addition and subtraction of matrices following the appropriate rules. Multiply matrices and apply the properties of matrix multiplication. Solve problems involving matrices in real-world contexts. Recognize the significance of matrices in various fields such as computer science, engineering, and economics. 	
Application Level 2: Critical Thought	A2 <ul style="list-style-type: none"> I can analyze mathematical structures, properties, and relationships to apply them in different contexts. I can use appropriate mathematical techniques, formulas, and reasoning to solve problems accurately. I can apply mathematical formulae and strategies to solve intermediate multi-step problems. 	B2 <ul style="list-style-type: none"> I can interpret and clearly explain the steps in my problem-solving process. I can justify my calculations, solutions, and conclusions using logical reasoning and appropriate mathematical language. I can construct arguments and, where appropriate, use proof or counterexamples to support my reasoning and application of concepts and procedures. 	C2 <ul style="list-style-type: none"> I can identify and explore patterns in mathematical problems and real-world applications. I can apply mathematical concepts to solve practical problems, including interdisciplinary connections. I can analyze data and relationships between variables to make predictions and draw conclusions. 		
Foundation Level 1: Logical Thought	A1 <ul style="list-style-type: none"> I can recognize and use basic mathematical concepts, symbols, and operations relevant to the topic. I can perform fundamental calculations and procedures. I can apply mathematical formulae and strategies to solve problems. 	B1 <ul style="list-style-type: none"> I can use correct notation and symbols to represent mathematical expressions, equations, and relationships. I can describe the steps I take to solve problems and explain my reasoning clearly. I can reflect on my mistakes and adjust my approach when solving problems. I can communicate mathematical solutions using correct mathematical language. 	C1 <ul style="list-style-type: none"> I can ask relevant questions to clarify and deepen my understanding of mathematical concepts. I can follow structured procedures to investigate mathematical ideas and solve problems. I can use mathematical tools (e.g., diagrams, graphs, equations, technology) to explore and validate concepts. 	Notes, Means of Assessment	
	Basics	Development	Judgment	<ul style="list-style-type: none"> PBL Formative Assessments End of unit assessment IXL 	

Salesian International School 2024-2025 Module Rubric					
Year	10	Course	AG Mathematics	Credits	5
Term	2	Exam		End of unit assessment	
Unit Title	Vectors				Required Materials
Unit Summary	In this unit, students will develop an understanding of vectors in two dimensions, learning how to represent and manipulate them using mathematical operations. They will explore vector addition, subtraction, and scalar multiplication, as well as how to express vectors in terms of other vectors. The concept of position vectors will be introduced, allowing students to analyze movement and displacement in coordinate geometry. Through real-world applications, students will see how vectors play a crucial role in fields such as physics, engineering, and navigation.				<i>Think! Mathematics G3 4B (8th Ed.)</i> (Textbook and Workbook) Notebook, writing utensil, iPad, internet access.
Assessment Basis					Unit Content
	Knowledge Fundamentals	Application Communication	Inquiry Creativity		
Research Level 3: Creative Thought	A3 <ul style="list-style-type: none"> I can identify patterns, make generalizations, and connect mathematical concepts across different topics. I can develop and justify efficient strategies to solve complex, multi-step problems. I can apply mathematics in unfamiliar contexts and create models to represent real-world situations. 	B3 <ul style="list-style-type: none"> I can compare and present multiple methods for solving problems and justify my choices. I can collaborate with others to refine and explain mathematical reasoning, including different problem-solving approaches. I can effectively use mathematical representations and visuals (graphs, equations, diagrams, technology) to communicate reasoning and solutions. 	C3 <ul style="list-style-type: none"> I can design and pose mathematical problems or challenges related to studied concepts. I can formulate and test conjectures by exploring relationships between variables. I can solve complex and non-routine mathematical problems, requiring deep reasoning, abstraction, or original problem-solving strategies. These problems represent the highest level of challenge in assessments. 	Key Topics Covered: <ul style="list-style-type: none"> Vectors in two dimensions Addition of vectors Vector subtraction Scalar multiples of a vector Expression of a vector in terms of two other vectors Position vectors Application of vectors Learning Objectives: Students would be able to: <ul style="list-style-type: none"> Understand and represent vectors in two dimensions. Perform vector addition and subtraction both graphically and algebraically. Multiply vectors by scalars and interpret the geometric implications. Express a vector in terms of two other vectors. Determine and apply position vectors in coordinate geometry. Apply vector concepts to solve real-world problems in physics, engineering, and navigation. 	
Application Level 2: Critical Thought	A2 <ul style="list-style-type: none"> I can analyze mathematical structures, properties, and relationships to apply them in different contexts. I can use appropriate mathematical techniques, formulas, and reasoning to solve problems accurately. I can apply mathematical formulae and strategies to solve intermediate multi-step problems. 	B2 <ul style="list-style-type: none"> I can interpret and clearly explain the steps in my problem-solving process. I can justify my calculations, solutions, and conclusions using logical reasoning and appropriate mathematical language. I can construct arguments and, where appropriate, use proof or counterexamples to support my reasoning and application of concepts and procedures. 	C2 <ul style="list-style-type: none"> I can identify and explore patterns in mathematical problems and real-world applications. I can apply mathematical concepts to solve practical problems, including interdisciplinary connections. I can analyze data and relationships between variables to make predictions and draw conclusions. 		
Foundation Level 1: Logical Thought	A1 <ul style="list-style-type: none"> I can recognize and use basic mathematical concepts, symbols, and operations relevant to the topic. I can perform fundamental calculations and procedures. I can apply mathematical formulae and strategies to solve problems. 	B1 <ul style="list-style-type: none"> I can use correct notation and symbols to represent mathematical expressions, equations, and relationships. I can describe the steps I take to solve problems and explain my reasoning clearly. I can reflect on my mistakes and adjust my approach when solving problems. I can communicate mathematical solutions using correct mathematical language. 	C1 <ul style="list-style-type: none"> I can ask relevant questions to clarify and deepen my understanding of mathematical concepts. I can follow structured procedures to investigate mathematical ideas and solve problems. I can use mathematical tools (e.g., diagrams, graphs, equations, technology) to explore and validate concepts. 	Notes, Means of Assessment	
	Basics	Development	Judgment	<ul style="list-style-type: none"> PBL Formative Assessments End of unit assessment IXL 	

Salesian International School 2024-2025 Module Rubric					
Year	10	Course	AG Mathematics	Credits	5
Term	2		Exam	End of unit assessment	
Unit Title	Revision: Geometry and Measurement				Required Materials
Unit Summary	This unit provides a review of key concepts in geometry and measurement, reinforcing students' spatial reasoning and problem-solving skills. Students will revisit fundamental topics such as angles, triangles, polygons, congruence, and similarity. They will apply Pythagoras' Theorem and trigonometry in various contexts, explore mensuration techniques for calculating area and volume, and analyze coordinate geometry concepts. The unit also covers vectors and the properties of circles, ensuring a well-rounded understanding of geometric relationships and their real-world applications.				<i>Think! Mathematics G3 4B (8th Ed.)</i> (Textbook and Workbook) Notebook, writing utensil, iPad, internet access.
Assessment Basis					Unit Content
	Knowledge Fundamentals	Application Communication	Inquiry Creativity	Key Topics Covered: <ul style="list-style-type: none"> Angles, triangles and polygons Congruence and Similarity Pythagoras' Theorem and Trigonometry Mensuration Coordinate geometry Vectors Properties of circles Learning Objectives: Students would be able to: <ul style="list-style-type: none"> Apply angle properties and geometric relationships in triangles and polygons. Recognize and use congruence and similarity in problem-solving. Use Pythagoras' Theorem and trigonometry to solve problems in two and three dimensions. Calculate areas, surface areas, and volumes of geometric shapes using mensuration techniques. Analyze geometric relationships using coordinate geometry. Perform vector operations and apply them in geometrical contexts. Understand and apply the properties of circles in problem-solving. 	
Research	A3	B3	C3		
Level 3: Creative Thought	<ul style="list-style-type: none"> I can identify patterns, make generalizations, and connect mathematical concepts across different topics. I can develop and justify efficient strategies to solve complex, multi-step problems. I can apply mathematics in unfamiliar contexts and create models to represent real-world situations. 	<ul style="list-style-type: none"> I can compare and present multiple methods for solving problems and justify my choices. I can collaborate with others to refine and explain mathematical reasoning, including different problem-solving approaches. I can effectively use mathematical representations and visuals (graphs, equations, diagrams, technology) to communicate reasoning and solutions. 	<ul style="list-style-type: none"> I can design and pose mathematical problems or challenges related to studied concepts. I can formulate and test conjectures by exploring relationships between variables. I can solve complex and non-routine mathematical problems, requiring deep reasoning, abstraction, or original problem-solving strategies. These problems represent the highest level of challenge in assessments. 		
Application	A2	B2	C2		
Level 2: Critical Thought	<ul style="list-style-type: none"> I can analyze mathematical structures, properties, and relationships to apply them in different contexts. I can use appropriate mathematical techniques, formulas, and reasoning to solve problems accurately. I can apply mathematical formulae and strategies to solve intermediate multi-step problems. 	<ul style="list-style-type: none"> I can interpret and clearly explain the steps in my problem-solving process. I can justify my calculations, solutions, and conclusions using logical reasoning and appropriate mathematical language. I can construct arguments and, where appropriate, use proof or counterexamples to support my reasoning and application of concepts and procedures. 	<ul style="list-style-type: none"> I can identify and explore patterns in mathematical problems and real-world applications. I can apply mathematical concepts to solve practical problems, including interdisciplinary connections. I can analyze data and relationships between variables to make predictions and draw conclusions. 		
Foundation	A1	B1	C1	Notes, Means of Assessment	
Level 1: Logical Thought	<ul style="list-style-type: none"> I can recognize and use basic mathematical concepts, symbols, and operations relevant to the topic. I can perform fundamental calculations and procedures. I can apply mathematical formulae and strategies to solve problems. 	<ul style="list-style-type: none"> I can use correct notation and symbols to represent mathematical expressions, equations, and relationships. I can describe the steps I take to solve problems and explain my reasoning clearly. I can reflect on my mistakes and adjust my approach when solving problems. I can communicate mathematical solutions using correct mathematical language. 	<ul style="list-style-type: none"> I can ask relevant questions to clarify and deepen my understanding of mathematical concepts. I can follow structured procedures to investigate mathematical ideas and solve problems. I can use mathematical tools (e.g., diagrams, graphs, equations, technology) to explore and validate concepts. 	<ul style="list-style-type: none"> PBL Formative Assessments End of unit assessment IXL 	
	Basics	Development	Judgment		

Salesian International School 2024-2025 Module Rubric					
Year	10	Course	AG Mathematics	Credits	5
Term	3	Exam		End of unit assessment (IXL)	
Unit Title	Revision: Numbers and Algebra				Required Materials
Unit Summary	This unit provides a comprehensive review of key concepts in numbers and algebra, reinforcing foundational mathematical skills essential for problem-solving and application. Students will revisit topics such as numbers, percentages, ratios, and rates, along with algebraic manipulation, equations, and inequalities. They will also explore functions, graphs, and their real-world interpretations. Additionally, the unit will cover sets and matrices, strengthening students' understanding of mathematical structures and operations. Through this revision, students will consolidate their knowledge and improve their ability to apply mathematical reasoning in various contexts.				<i>Think! Mathematics G3 4B (8th Ed.)</i> (Textbook and Workbook) Notebook, writing utensil, iPad, internet access.
Assessment Basis					Unit Content
	Knowledge Fundamentals	Application Communication	Inquiry Creativity		
Research Level 3: Creative Thought	A3 <ul style="list-style-type: none"> I can identify patterns, make generalizations, and connect mathematical concepts across different topics. I can develop and justify efficient strategies to solve complex, multi-step problems. I can apply mathematics in unfamiliar contexts and create models to represent real-world situations. 	B3 <ul style="list-style-type: none"> I can compare and present multiple methods for solving problems and justify my choices. I can collaborate with others to refine and explain mathematical reasoning, including different problem-solving approaches. I can effectively use mathematical representations and visuals (graphs, equations, diagrams, technology) to communicate reasoning and solutions. 	C3 <ul style="list-style-type: none"> I can design and pose mathematical problems or challenges related to studied concepts. I can formulate and test conjectures by exploring relationships between variables. I can solve complex and non-routine mathematical problems, requiring deep reasoning, abstraction, or original problem-solving strategies. These problems represent the highest level of challenge in assessments. 	Key Topics Covered: <ul style="list-style-type: none"> Numbers and Percentages Proportion, ratio, rate and speed Algebraic manipulation and formulae Equations and inequalities Functions and graphs Graphs in practical situations Sets Matrices Learning Objectives: Students would be able to: <ul style="list-style-type: none"> Apply concepts of numbers to solve problems. Perform algebraic manipulations. Solve equations and inequalities. Understand and interpret functions and graphs. Analyze and sketch graphs representing practical situations. Utilize set theory and Venn diagrams to solve problems. Perform basic matrix operations. Synthesize knowledge from various algebraic and numerical topics. 	
Application Level 2: Critical Thought	A2 <ul style="list-style-type: none"> I can analyze mathematical structures, properties, and relationships to apply them in different contexts. I can use appropriate mathematical techniques, formulas, and reasoning to solve problems accurately. I can apply mathematical formulae and strategies to solve intermediate multi-step problems. 	B2 <ul style="list-style-type: none"> I can interpret and clearly explain the steps in my problem-solving process. I can justify my calculations, solutions, and conclusions using logical reasoning and appropriate mathematical language. I can construct arguments and, where appropriate, use proof or counterexamples to support my reasoning and application of concepts and procedures. 	C2 <ul style="list-style-type: none"> I can identify and explore patterns in mathematical problems and real-world applications. I can apply mathematical concepts to solve practical problems, including interdisciplinary connections. I can analyze data and relationships between variables to make predictions and draw conclusions. 		
Foundation Level 1: Logical Thought	A1 <ul style="list-style-type: none"> I can recognize and use basic mathematical concepts, symbols, and operations relevant to the topic. I can perform fundamental calculations and procedures. I can apply mathematical formulae and strategies to solve problems. 	B1 <ul style="list-style-type: none"> I can use correct notation and symbols to represent mathematical expressions, equations, and relationships. I can describe the steps I take to solve problems and explain my reasoning clearly. I can reflect on my mistakes and adjust my approach when solving problems. I can communicate mathematical solutions using correct mathematical language. 	C1 <ul style="list-style-type: none"> I can ask relevant questions to clarify and deepen my understanding of mathematical concepts. I can follow structured procedures to investigate mathematical ideas and solve problems. I can use mathematical tools (e.g., diagrams, graphs, equations, technology) to explore and validate concepts. 	Notes, Means of Assessment	
	Basics	Development	Judgment	<ul style="list-style-type: none"> PBL Formative Assessments End of unit assessment IXL 	

Salesian International School 2024-2025 Module Rubric					
Year	10	Course	AG Mathematics	Credits	5
Term	3	Exam		End of unit assessment	
Unit Title	Revision: Probability and Statistics				Required Materials
Unit Summary	This unit provides a review of key concepts in probability and statistics, reinforcing students' ability to analyze data and assess uncertainty in various contexts. Students will revisit fundamental probability principles, including single and combined events, and apply probability laws to solve problems. In statistics, they will review data analysis techniques, including measures of central tendency, dispersion, and data representation. Emphasis will be placed on applying these concepts to real-world problems, helping students develop critical thinking and decision-making skills based on data interpretation.				<i>Think! Mathematics G3 4B (8th Ed.)</i> (Textbook and Workbook) Notebook, writing utensil, iPad, internet access.
Assessment Basis					Unit Content
	Knowledge Fundamentals	Application Communication	Inquiry Creativity	Key Topics Covered:	
Research Level 3: Creative Thought	A3 <ul style="list-style-type: none"> I can identify patterns, make generalizations, and connect mathematical concepts across different topics. I can develop and justify efficient strategies to solve complex, multi-step problems. I can apply mathematics in unfamiliar contexts and create models to represent real-world situations. 	B3 <ul style="list-style-type: none"> I can compare and present multiple methods for solving problems and justify my choices. I can collaborate with others to refine and explain mathematical reasoning, including different problem-solving approaches. I can effectively use mathematical representations and visuals (graphs, equations, diagrams, technology) to communicate reasoning and solutions. 	C3 <ul style="list-style-type: none"> I can design and pose mathematical problems or challenges related to studied concepts. I can formulate and test conjectures by exploring relationships between variables. I can solve complex and non-routine mathematical problems, requiring deep reasoning, abstraction, or original problem-solving strategies. These problems represent the highest level of challenge in assessments. 	<ul style="list-style-type: none"> Probability Statistics Problems in Real-World Contexts <p>Learning Objectives: Students would be able to:</p> <ul style="list-style-type: none"> Apply probability concepts to determine the likelihood of events occurring. Analyze statistical data using measures such as mean, median, mode, range, and standard deviation. Interpret and construct data representations such as graphs, tables, and charts. Solve probability and statistical problems in real-world contexts. Make informed decisions based on statistical analysis and probability reasoning. 	
Application Level 2: Critical Thought	A2 <ul style="list-style-type: none"> I can analyze mathematical structures, properties, and relationships to apply them in different contexts. I can use appropriate mathematical techniques, formulas, and reasoning to solve problems accurately. I can apply mathematical formulae and strategies to solve intermediate multi-step problems. 	B2 <ul style="list-style-type: none"> I can interpret and clearly explain the steps in my problem-solving process. I can justify my calculations, solutions, and conclusions using logical reasoning and appropriate mathematical language. I can construct arguments and, where appropriate, use proof or counterexamples to support my reasoning and application of concepts and procedures. 	C2 <ul style="list-style-type: none"> I can identify and explore patterns in mathematical problems and real-world applications. I can apply mathematical concepts to solve practical problems, including interdisciplinary connections. I can analyze data and relationships between variables to make predictions and draw conclusions. 		
Foundation Level 1: Logical Thought	A1 <ul style="list-style-type: none"> I can recognize and use basic mathematical concepts, symbols, and operations relevant to the topic. I can perform fundamental calculations and procedures. I can apply mathematical formulae and strategies to solve problems. 	B1 <ul style="list-style-type: none"> I can use correct notation and symbols to represent mathematical expressions, equations, and relationships. I can describe the steps I take to solve problems and explain my reasoning clearly. I can reflect on my mistakes and adjust my approach when solving problems. I can communicate mathematical solutions using correct mathematical language. 	C1 <ul style="list-style-type: none"> I can ask relevant questions to clarify and deepen my understanding of mathematical concepts. I can follow structured procedures to investigate mathematical ideas and solve problems. I can use mathematical tools (e.g., diagrams, graphs, equations, technology) to explore and validate concepts. 	Notes, Means of Assessment <ul style="list-style-type: none"> PBL Formative Assessments End of unit assessment IXL 	
	Basics	Development	Judgment		