Department of Accelerated Programs

Mathematical Studies SL Curriculum

10.0 Credits
# IB LEARNER PROFILE

IB Programs aim to develop internationally minded people who are striving to become:

<table>
<thead>
<tr>
<th>Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inquirers</td>
<td>Their natural curiosity is nurtured. They acquire the skills necessary to conduct constructive inquiry and research, and become independent active learners. They actively enjoy learning and this love of learning will be sustained throughout their lives.</td>
</tr>
<tr>
<td>Knowledgeable</td>
<td>They explore concepts, ideas and issues, which have global relevance and importance. In so doing, they acquire, and are able to make use of, a significant body of knowledge across a range of disciplines.</td>
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<tr>
<td>Critical thinkers</td>
<td>They exercise initiative in applying thinking skills critically and creatively to approach complex problems and make reasoned decisions.</td>
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<tr>
<td>Communicators</td>
<td>They understand and express ideas and information confidently and creatively in more than one language and in a variety of modes of communication.</td>
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<tr>
<td>Risk-takers</td>
<td>They approach unfamiliar situations with confidence and forethought, and have the independence of spirit to explore new roles, ideas and strategies. They are courageous and articulate in defending those things in which they believe.</td>
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<tr>
<td>Principled</td>
<td>They have a sound grasp of the principles of moral reasoning. They have integrity, honesty, a sense of fairness and justice and respect for the dignity of the individual.</td>
</tr>
<tr>
<td>Caring</td>
<td>They show empathy, compassion and respect towards the needs and feelings of others. They have a personal commitment to action and service to make a positive difference to the environment and to the lives of others.</td>
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<tr>
<td>Open-minded</td>
<td>Through an understanding and appreciation of their own culture, they are open to the perspectives, values and traditions of other individuals and cultures and are accustomed to seeking and considering a range of points of view.</td>
</tr>
<tr>
<td>Well-balanced</td>
<td>They understand the importance of physical and mental balance and personal wellbeing for themselves and others. They demonstrate perseverance and self-discipline.</td>
</tr>
<tr>
<td>Reflective</td>
<td>They give thoughtful consideration to their own learning and personal development. They are able to analyze their strengths and weaknesses in a constructive manner.</td>
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Unit 1
Mathematical Studies Year 2

Course Description

Mathematical Studies is a course with an emphasis on applications of mathematics. It is for students with varied backgrounds and abilities. It offers students opportunities to learn important concepts and techniques and to gain an understanding of a wide variety of mathematical topics. It prepares students to be able to solve problems in a variety of settings, to develop more sophisticated mathematical reasoning and to enhance their critical thinking. The individual project is an extended piece of work based on personal research involving the collection, analysis and evaluation of data. Students taking this course are well prepared for a career in social sciences, humanities, languages or arts.
# Mathematical Studies Year 2

## Pacing Guide

<table>
<thead>
<tr>
<th>Unit</th>
<th>Topic</th>
<th>Suggested Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1</td>
<td>Geometry and Trigonometry</td>
<td>8 Weeks</td>
</tr>
<tr>
<td>Unit 2</td>
<td>Mathematical Models</td>
<td>9 Weeks</td>
</tr>
<tr>
<td>Unit 3</td>
<td>Introduction to Differential Calculus 1</td>
<td>8 Weeks</td>
</tr>
<tr>
<td>Unit 4</td>
<td>Introduction to Differential Calculus 2</td>
<td>7 Weeks</td>
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</tbody>
</table>
Educational Technology Standards


- **Technology Operations and Concepts**
  - Create a personal digital portfolio which reflects personal and academic interests, achievements, and career aspirations by using a variety of digital tools and resources.
  - Produce and edit a multi-page digital document for a commercial or professional audience and present it to peers and/or professionals in that related area for review.

- **Creativity and Innovation**
  - Apply previous content knowledge by creating and piloting a digital learning game or tutorial.

- **Communication and Collaboration**
  - Develop an innovative solution to a real world problem or issue in collaboration with peers and experts, and present ideas for feedback through social media or in an online community.

- **Digital Citizenship**
  - Demonstrate appropriate application of copyright, fair use and/or Creative Commons to an original work.
  - Evaluate consequences of unauthorized electronic access and disclosure, and on dissemination of personal information.
  - Compare and contrast policies on filtering and censorship both locally and globally.

- **Research and Information Literacy**
  - Produce a position statement about a real world problem by developing a systematic plan of investigation with peers and experts synthesizing information from multiple sources.

- **Critical Thinking, Problem Solving, Decision Making**
  - Evaluate the strengths and limitations of emerging technologies and their impact on educational, career, personal and or social needs.
Career Ready Practices

Career Ready Practices describe the career-ready skills that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increase college, career, and life success. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

CRP1. Act as a responsible and contributing citizen and employee
Career-ready individuals understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.

CRP2. Apply appropriate academic and technical skills.
Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation.

CRP3. Attend to personal health and financial well-being.
Career-ready individuals understand the relationship between personal health, workplace performance and personal well-being; they act on that understanding to regularly practice healthy diet, exercise and mental health activities. Career-ready individuals also take regular action to contribute to their personal financial wellbeing, understanding that personal financial security provides the peace of mind required to contribute more fully to their own career success.
Career Ready Practices

**CRP4. Communicate clearly and effectively and with reason.**
Career-ready individuals communicate thoughts, ideas, and action plans with clarity, whether using written, verbal, and/or visual methods. They communicate in the workplace with clarity and purpose to make maximum use of their own and others’ time. They are excellent writers; they master conventions, word choice, and organization, and use effective tone and presentation skills to articulate ideas. They are skilled at interacting with others; they are active listeners and speak clearly and with purpose. Career-ready individuals think about the audience for their communication and prepare accordingly to ensure the desired outcome.

**CRP5. Consider the environmental, social and economic impacts of decisions.**
Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organization, and the environment. They are aware of and utilize new technologies, understandings, procedures, materials, and regulations affecting the nature of their work as it relates to the impact on the social condition, the environment and the profitability of the organization.

**CRP6. Demonstrate creativity and innovation.**
Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.

**CRP7. Employ valid and reliable research strategies.**
Career-ready individuals are discerning in accepting and using new information to make decisions, change practices or inform strategies. They use reliable research process to search for new information. They evaluate the validity of sources when considering the use and adoption of external information or practices in their workplace situation.
Career Ready Practices

**CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.**
Career-ready individuals readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.

**CRP9. Model integrity, ethical leadership and effective management.**
Career-ready individuals consistently act in ways that align personal and community-held ideals and principles while employing strategies to positively influence others in the workplace. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the directions and actions of a team or organization, and they apply insights into human behavior to change others’ action, attitudes and/or beliefs. They recognize the near-term and long-term effects that management’s actions and attitudes can have on productivity, morals and organizational culture.

**CRP10. Plan education and career paths aligned to personal goals.**
Career-ready individuals take personal ownership of their own education and career goals, and they regularly act on a plan to attain these goals. They understand their own career interests, preferences, goals, and requirements. They have perspective regarding the pathways available to them and the time, effort, experience and other requirements to pursue each, including a path of entrepreneurship. They recognize the value of each step in the education and experiential process, and they recognize that nearly all career paths require ongoing education and experience. They seek counselors, mentors, and other experts to assist in the planning and execution of career and personal goals.

**CRP11. Use technology to enhance productivity.**
Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks-personal and organizational-of technology applications, and they take actions to prevent or mitigate these risks.
**Career Ready Practices**

**CRP12. Work productively in teams while using cultural global competence.**
Career-ready individuals positively contribute to every team, whether formal or informal. They apply an awareness of cultural difference to avoid barriers to productive and positive interaction. They find ways to increase the engagement and contribution of all team members. They plan and facilitate effective team meetings.
### Differentiated Instruction

**Strategies to Accommodate Students Based on Individual Needs**

<table>
<thead>
<tr>
<th>Time/General</th>
<th>Processing</th>
<th>Comprehension</th>
<th>Recall</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Extra time for assigned tasks</td>
<td>• Extra Response time</td>
<td>• Precise step-by-step directions</td>
<td>• Teacher-made checklist</td>
</tr>
<tr>
<td>• Adjust length of assignment</td>
<td>• Have students verbalize steps</td>
<td>• Short manageable tasks</td>
<td>• Use visual graphic organizers</td>
</tr>
<tr>
<td>• Timeline with due dates for reports and projects</td>
<td>• Repeat, clarify or reword directions</td>
<td>• Brief and concrete directions</td>
<td>• Reference resources to promote independence</td>
</tr>
<tr>
<td>• Communication system between home and school</td>
<td>• Mini-breaks between tasks</td>
<td>• Provide immediate feedback</td>
<td>• Visual and verbal reminders</td>
</tr>
<tr>
<td>• Provide lecture notes/outline</td>
<td>• Provide a warning for transitions</td>
<td>• Small group instruction</td>
<td>• Graphic organizers</td>
</tr>
<tr>
<td>• Reading partners</td>
<td>• Reading partners</td>
<td>• Emphasize multi-sensory learning</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assistive Technology</th>
<th>Tests/Quizzes/Grading</th>
<th>Behavior/Attention</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Computer/whiteboard</td>
<td>• Extended time</td>
<td>• Consistent daily structured routine</td>
<td>• Individual daily planner</td>
</tr>
<tr>
<td>• Tape recorder</td>
<td>• Study guides</td>
<td>• Simple and clear classroom rules</td>
<td>• Display a written agenda</td>
</tr>
<tr>
<td>• Spell-checker</td>
<td>• Shortened tests</td>
<td>• Frequent feedback</td>
<td>• Note-taking assistance</td>
</tr>
<tr>
<td>• Audio-taped books</td>
<td>• Read directions aloud</td>
<td></td>
<td>• Color code materials</td>
</tr>
</tbody>
</table>
## Enrichment

### Strategies Used to Accommodate Based on Students Individual Needs:

- Adaption of Material and Requirements
- Evaluate Vocabulary
- Elevated Text Complexity
- Additional Projects
- Independent Student Options
- Projects completed individual or with Partners
- Self-Selection of Research
- Tiered/Multilevel Activities
- Learning Centers
- Individual Response Board
- Independent Book Studies
- Open-ended activities
- Community/Subject expert mentorships
## Assessments

### Suggested Formative/Summative Classroom Assessments

- Timelines, Maps, Charts, Graphic Organizers
- Teacher-created Unit Assessments, Chapter Assessments, Quizzes
- Teacher-created DBQs, Essays, Short Answer
- Accountable Talk, Debate, Oral Report, Role Playing, Think Pair, and Share
- Projects, Portfolio, Presentations, Prezi, Gallery Walks
- Homework
- Concept Mapping
- Primary and Secondary Source analysis
- Photo, Video, Political Cartoon, Radio, Song Analysis
- Create an Original Song, Film, or Poem
- Glogster to make Electronic Posters
- Internal and External IB Assessments
# Interdisciplinary Connections

## English Language Arts
- Journal writing
- Close reading of industry-related content
- Create a brochure for a specific industry
- Keep a running word wall of industry vocabulary

## Social Studies
- Research the history of a given industry/profession
- Research prominent historical individuals in a given industry/profession
- Use historical references to solve problems

## World Language
- Translate industry-content
- Create a translated index of industry vocabulary
- Generate a translated list of words and phrases related to workplace safety

## Math
- Research industry salaries for a geographic area and juxtapose against local cost of living
- Go on a geometry scavenger hunt
- Track and track various data, such as industry’s impact on the GDP, career opportunities or among of individuals currently occupying careers

## Fine & Performing Arts
- Create a poster recruiting young people to focus their studies on a specific career or industry
- Design a flag or logo to represent a given career field

## Science
- Research the environmental impact of a given career or industry
- Research latest developments in industry technology
- Investigate applicable-careers in STEM fields
Common Core State Standards (CCSS)

G.CO.9: Prove theorems about lines and angles.

G.CO.12: Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices paper folding, dynamic geometric software, etc.).

G.SRT.7: Explain and use the relationship between the sine and cosine of complementary angles.

G.SRT.8: Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.

G.MG.1: Use geometric shapes, their measures, and their properties to describe objects.

G.SRT.9: Derive the formula \( A = \frac{1}{2} ab \sin(C) \) for the area of a triangle by drawing an auxline from a vertex perpendicular to the opposite side.

G.SRT.10: Prove the Laws of Sines and Cosines and use them to solve problems

G.SRT.11: Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles.

G.GMD.3: Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.

G.GPE.5: Prove the slope criteria for parallel and perpendicular lines and uses them to solve geometric problems.

HSG.GMD.A.1: Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone

HSG.GMD.A.2: Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.
HSG.GMD.A.3: Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.

**Mathematical Practices:**

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Communicate the precise answer to a real-world problem.
8. Look for and make use of structure.
9. Look for and express regularity in repeated reasoning. All of the content presented in this course has connections to the standards for mathematical practices.
### Course: Mathematical Studies

#### Unit: 1

#### Grade Level: 11

**Unit Overview: Geometry and Trigonometry**

This course is designed to emphasize the study of the properties and applications of common geometric figures in two and three dimensions. Geometry stresses the ability to reason logically and to think critically. The aims of this unit are to develop the ability to draw clear diagrams in two dimensions, and to apply appropriate geometric and trigonometric techniques to problem-solving in two and three dimensions.


<table>
<thead>
<tr>
<th>Student Learning Objectives (SLOs)</th>
<th>Essential Questions</th>
<th>Content</th>
<th>Activities &amp; Assessments</th>
<th>Resources</th>
</tr>
</thead>
</table>
| Make formal constructions using a variety of tools (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.) and methods. | How can I use constructions to show congruence in geometric figures?  
What is the purpose of creating constructions of geometric figures?  
How can tools and techniques be used to illustrate geometric concepts? | ➢ Constructing labeled diagrams.  
➢ Use constructions to represent real world examples. | **Lab:** Constructions  
Summative and Formative Assessments (Quizzes & Tests) for each topic.  
Homework and Classwork assignments based on daily lessons. | • Textbook: Mathematical Studies by Patrick Tobin  
• Textbook: Mathematical Studies SL for the IB Diploma by Caroline Meyrick and Kwame Dwamena  
• Geometer’s Sketchpad |
<p>| <strong>CSSS:</strong> G.CO.12 G.MG.1 | | | | |</p>
<table>
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<tbody>
<tr>
<td>Utilize the properties of straight lines to determine the standard forms of linear equations; calculate the gradient and recognize the properties of parallel and perpendicular lines. CSSS: G.CO.9 G.GPE.5</td>
<td>What are the building blocks of Geometry? How are geometry and algebra related to each other? Why is there a relationship between the gradient of parallel and perpendicular lines? How are angles and parallel and perpendicular lines used in real-world problems?</td>
<td>Distance formula Midpoint formula The gradient of a line Finding x and y intercepts Finding the equation of a straight line The gradient-intercept form Identify parallel and perpendicular lines.</td>
<td>Summative and Formative Assessments (Quizzes &amp; Tests) for each topic. Homework and Classwork assignments based on daily lessons.</td>
<td>• Desmos Online Graphing Calculator • Texas Instruments TI-84 Plus Graphing Display Calculator IB Question bank <a href="http://www.occ.ibo.org">www.occ.ibo.org</a> <a href="http://www.geogebra.com">www.geogebra.com</a> <a href="http://www.Khanacademy.org">www.Khanacademy.org</a> <a href="http://www.illustrativemathematics.org">www.illustrativemathematics.org</a> <a href="http://www.illuminations.nctm.org">www.illuminations.nctm.org</a> <a href="http://www.youtube.com">www.youtube.com</a> <a href="http://ocw.mit.edu">http://ocw.mit.edu</a> <a href="http://www.NJCTL.org">www.NJCTL.org</a> <a href="http://www.instituteforlearning.org">www.instituteforlearning.org</a></td>
</tr>
<tr>
<td>Use trigonometric ratios and the Pythagorean Theorem to compute all angle measures and side lengths of triangles in applied problems. CSSS: G.CO.9 G.SRT.8</td>
<td>How can right triangles be used to solve real world problems? How do you solve problems that involve measurements of triangles? How do the ratios of the side lengths of right triangles relate to the</td>
<td>Utilize the Pythagorean Theorem. Use trigonometric ratios; sine, cosine and tangent. Angle of elevation Angle of Depression.</td>
<td>Activity: Grand Canyon Adventure Create a flow chart to help choose the correct trigonometric ratios for any given problem. Summative and Formative Assessments (Quizzes &amp; Tests) for</td>
<td><a href="http://www.illuminations.nctm.org">www.illuminations.nctm.org</a> <a href="http://www.youtube.com">www.youtube.com</a> <a href="http://ocw.mit.edu">http://ocw.mit.edu</a> <a href="http://www.NJCTL.org">www.NJCTL.org</a> <a href="http://www.instituteforlearning.org">www.instituteforlearning.org</a></td>
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<td>angles in the triangle?</td>
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<td>each topic.</td>
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<td>Homework and Classwork assignments based on daily lessons.</td>
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<tr>
<td>Choose and apply the Sine rule and the Cosine rule to compute side lengths of triangles in applied problems.</td>
<td>How do sine/cosine rules impact trigonometric ratio calculations? How can you use the law of sines and cosines to solve oblique triangles?</td>
<td>Use the sine rule to find side length or angle degree. Ambiguous case Use the cosine rule to find side length or angle degree. Area of a triangle using trigonometric ratios.</td>
<td>Create a flow chart to help choose the correct trigonometric rule for any given problem. Summative and Formative Assessments (Quizzes &amp; Tests) for each topic. Homework and Classwork assignments based on daily lessons.</td>
<td></td>
</tr>
<tr>
<td><strong>CSSS:</strong> G.CO.9 G.SRT.7 G.SRT.10 G.SRT.11</td>
<td>What are various ways to describe the measures and properties of geometric shapes that best represent a real-world object? What are the attributes of various three-dimensional solids: cuboid; right prism; right pyramid; right cone; cylinder; sphere; hemisphere; and combinations of these</td>
<td>Recognize three dimensional solids. Calculate the distance between two points within a solid: between vertices, vertex to midpoint or from midpoint to</td>
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<td>Activity: Dorm Dilemma</td>
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<td>Summative and Formative Assessments (Quizzes &amp; Tests) for each topic. Homework and</td>
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<tr>
<td>solids.</td>
<td>each three-dimensional figure?</td>
<td>midpoint.</td>
<td>Classwork assignments based on daily lessons.</td>
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</tr>
<tr>
<td>CSSS: G.MG.1 HSG.GMD.A.1 GMD.A.2</td>
<td>Why is it important to be able to relate two-dimensional drawings with three dimensional figures?</td>
<td>Calculate the size of an angle between two lines or between a line and a plane.</td>
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<tr>
<td></td>
<td></td>
<td>Ø Calculate the size of an angle between two lines or between a line and a plane.</td>
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<tr>
<td>Calculate and identify relationships between volume and surface areas of three-dimensional solids.</td>
<td>Is there a relationship between the area and perimeter of a polygon and surface area and volume of a solid?</td>
<td>Ø Calculate the volumes of three-dimensional solids.</td>
<td>Activity: Folding Pairs Summative and Formative Assessments (Quizzes &amp; Tests) for each topic.</td>
<td></td>
</tr>
<tr>
<td>CSSS: G.MG.1 G.GMD.3 HSG.GMD.A.1</td>
<td>How are geometric shapes and objects classified?</td>
<td>Ø Calculate the volumes of three-dimensional solids.</td>
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<td></td>
<td></td>
<td>Ø Calculate the volumes of three-dimensional solids.</td>
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<tr>
<td></td>
<td></td>
<td>Ø Identify the relationship between surface area and volume between 3-dimensional solids.</td>
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</table>

Activities & Assessments:
- Classwork assignments based on daily lessons.
- Activity: Folding Pairs
- Summative and Formative Assessments (Quizzes & Tests) for each topic.
- Homework and Classwork assignments based on daily lessons.
# Unit 1 Vocabulary

<table>
<thead>
<tr>
<th>Pythagorean triples</th>
<th>Pythagoras' theorem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gradient of a line</td>
<td>Angle of elevation</td>
</tr>
<tr>
<td>Y-intercept</td>
<td>Angle of depression</td>
</tr>
<tr>
<td>Gradient-intercept</td>
<td>Sine rule</td>
</tr>
<tr>
<td>General form</td>
<td>Cosine rule</td>
</tr>
<tr>
<td>Hypotenuse</td>
<td>Oblique case</td>
</tr>
<tr>
<td>Trigonometric ratio</td>
<td>Solids</td>
</tr>
</tbody>
</table>
### TOK Connections

Descartes showed that geometric problems can be solved algebraically and vice versa. What does this tell us about mathematical representation and mathematical knowledge.  
Use the fact that the cosine rule is one possible generalization of Pythagoras’ theorem to explore the concept on “generality”.  
What is an axiomatic system?  
Do the angles in a triangle always add to 180°?

### Contribution to the Development of Students’ Approached to Learning Skills

Students exercise initiative in applying thinking skills critically and creatively to recognize and approach complex problems, and make reasoned ethical decisions. Inquiry approaches: investigate unfamiliar situations, both abstract and real-world, involving organizing and analyzing information or measurements, drawing conclusions, testing validity, and considering their scope and limitations.

### Contributions to the Development of the Attribute(s) of the Learner Profile

Students exercise initiative in applying thinking skills critically and creatively to recognize and approach complex problems, and make reasoned ethical decisions. Inquiry approaches: investigate unfamiliar situations, both abstract and real-world, involving organizing and analyzing information or measurements, drawing conclusions, testing validity, and considering their scope and limitations.
<table>
<thead>
<tr>
<th>Contribution to the Development of International Mindedness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagrams of Pythagoras’ theorem occur in early Chinese and Indian manuscripts. The earliest references to trigonometry are in Indian mathematics.</td>
</tr>
</tbody>
</table>