<table>
<thead>
<tr>
<th>Term 4</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday, 07 October to Friday, 19 December</td>
<td>Tuesday, 3 February to Thursday, 02 April</td>
<td>Monday, 20 April to Friday, 26 June</td>
<td>Monday, 13 July to Friday, 18 September</td>
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### Preliminary Topic
- **Quadratic Polynomial**
  - Graphing Quadratic
  - Sum and Product of Roots
  - Discriminant

### Term 1
- **Trigonometric Functions** H2 H4 H5 H8 H9
  - Radians Measure
  - Circle Results
  - Trig Graphs
  - Integration and Differentiation of trig fns

### Term 2
- Applications of Calculus to the Physical World
  - H2 - H9
  - Rates of Change
  - Exp growth and decay
  - Motion of a Particle

### Term 3
- Revision

### Term 4
- Geometrical Applications of Calculus H2 H4 H5 H6 H7 H9
  - Stat Pts, pts of inflexion, concavity, graphing, maximum and minima
  - Problems, Primitive functions

### Term 5
- Exponential and Log fns H2 H3 H4 H5 H7 H8 H9
  - Differentiation and Integration of Exp and log fns
  - Log Rules

### Term 6
- Series and Sequence H2 H4 H5 H9
  - APs
  - GPs
  - Financial Applications

### Term 7
- Integration H2 H4 H5 H6 H8 H9
  - Simpsons and Trapezoidal Rule
  - Definite and Indefinite Integrals
  - Areas and Volumes

### Term 8
- Coordinate Methods in Geometry H2 H5 H9
  - Applications of Geometric Properties
  - Probability H2 H4 H5 H9

### Term 9
- Ass 2 Half Yearly

### Term 10
- Ass 1 Geometrical Applications of Calculus and Integration
  - Ass 3 Applications of Calculus and Series
  - Revision
<table>
<thead>
<tr>
<th>Students will develop:</th>
<th>A student:</th>
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<tbody>
<tr>
<td>appreciation of the scope, usefulness, beauty and elegance of mathematics</td>
<td>H1 seeks to apply mathematical techniques to problems in a wide range of practical contexts</td>
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<tr>
<td>the ability to reason in a broad range of mathematical contexts</td>
<td>H2 constructs arguments to prove and justify results</td>
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<td>skills in applying mathematical techniques to the solution of practical problems</td>
<td>H3 manipulates algebraic expressions involving logarithmic and exponential functions</td>
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<tr>
<td>understanding of the key concepts of calculus and the ability to differentiate and integrate a range of functions</td>
<td>H4 expresses practical problems in mathematical terms based on simple given models</td>
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<td>H5 applies appropriate techniques from the study of calculus, geometry, probability, trigonometry and series to solve problems</td>
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<td>the ability to interpret and communicate mathematics in a variety of forms</td>
<td>H6 uses the derivative to determine the features of the graph of a function</td>
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<td>H7 uses the features of a graph to deduce information about the derivative</td>
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<td>H8 uses techniques of integration to calculate areas and volumes</td>
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<tr>
<td></td>
<td>H9 communicates using mathematical language, notation, diagrams and graphs</td>
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