



Bowral High Mathematics Faculty

Course Information, Assessment & Reporting Year 9

Summary of Year 9 Mathematics – Stage 5.3

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Term 1	Basic Skills & Number <i>Operates with integers, fractions, decimals, percentages, ratios & rates</i>				Algebraic Expressions <i>Simplifies, expands & factorises simple algebraic expressions including fractional & negative indices, expanding binomial products and factorising quadratic expressions.</i>			Probability <i>Solves probability problems involving simple events. Determines relative frequencies and theoretical probabilities.</i>		
Term 2	Geometry <i>Exterior angle sums of polygons; Proving triangles are congruent or similar; formal proofs in geometry</i>			Indices & Surds <i>Uses index laws to simplify algebraic expressions including negative and fractional indices; Performs operations with surds & indices</i>			Measurement <i>Uses formulae to calculate the perimeter and area of shapes including circles and composite figures; Surface area and volume of composite shapes</i>			
Term 3	Equations, Inequations, Formulae & Simultaneous Equations <i>Solves linear equations, inequations, simple quadratic equations and simultaneous equations using graphical and algebraic methods</i>				Consumer Arithmetic <i>Solves consumer arithmetic problems involving earning and spending money, compound interest, depreciation and successive discounts</i>			Coordinate Geometry <i>Determines the midpoint length and gradient of an interval from a diagram and by formula; Uses standard forms for the equation of a line and graphs regions on the number plane</i>		
Term 4	Statistics <i>Collects data; Constructs, reads and interprets data from graphs, tables & charts; Works with grouped data</i>			Trigonometry <i>Applies trigonometry to find sides and angles in right angle triangles including angles of elevation and depression and bearings</i>			Graphs of Physical Phenomena <i>Draws and interprets graphs of physical phenomena; Analyses and describes these graphs</i>			

Note:

- All classes will follow the program shown above but the depth and scope of study in each class may vary. Students' pre-existing levels of knowledge, skills and applications will be assessed and relevant outcomes addressed in order to recognize and extend their confidence and skills in mathematics.

Assessment

Student achievement will be measured within individual classes and across the whole of Year 9.

- **Within Classes:** student progress in achieving designated outcomes will be assessed, on an ongoing basis, using a variety of tools including teacher observation, homework tasks, assignments, class participation, completion of set tasks and topic tests.
- **Across the whole of Year 9:** student performance relative to the whole of Year 9 will be assessed through their performance in **Major Semester Tests which will be held in week 6, Term 2 and week 4, Term 4.** These tests, along with teacher recommendations, will also be used in determining Mathematics classes for Year 10.

Reporting

A student progress report will be provided at the end of each semester. The report for each student will show:-

1. A Grade (A–E), indicating the student’s relative performance across the whole of Year 9.

A – Outstanding Achievement: The student has an extensive knowledge and understanding of the content and can readily apply this knowledge. In addition, the student has achieved a very high level of competence in the processes and skills and can apply these skills to new situations.

B – High Achievement: The student has a thorough knowledge and understanding of the content and a high level of competence in the processes and skills. In addition, the student is able to apply this knowledge and these skills to most situations.

C – Sound Achievement: The student has a sound knowledge and understanding of the main areas of content and has achieved an adequate level of competence in the processes and skills.

D – Basic Achievement: The student has a basic knowledge and understanding of the content and has achieved a limited level of competence in the processes and skills.

E – Limited Achievement: The student has an elementary knowledge and understanding in few areas of the content and has achieved very limited competence in some of the processes and skills.

N - Fails to meet course requirements for the School Certificate

2. Grades indicating the level of achievement in each area studied during the semester. These Grades will be based on the individual student’s achievement in their class. The areas of assessment in Year 9, Stage 5.3 are:-

Year 9, 5.3 – Semester 1

- Operates with fractions, decimals, percentages, rates and ratios. Understands significant figures as an indicator of accuracy in calculations
- Simplifies algebraic expressions, expands binomial products and factorises quadratic expressions
- Determines relative frequencies and theoretical probabilities
- Angle sums of polygons. Similar and congruent triangles. Deductive reasoning in geometry
- Working with negative and fractional indices. Operating with surds and indices

Year 9 5.3 – Semester 2

- Finding the perimeter and area of composite shapes and the surface area and volume of composite solids

- Using algebra to solve equations, inequations and simultaneous equations; application in problem solving
- Solving consumer arithmetic problems including simple and compound interest and depreciation
- Graphing straight lines and regions; finding distance, midpoint and gradient; finding equations of straight lines
- Collecting, analysing, presenting and interpreting statistical data, including grouped data and cumulative frequency

The grades will be: Outstanding, High , Sound, Basic, Limited, N (fails to meet course requirements for the School Certificate), **n/a** (If the student was not at BHS for this work)

3. A personal profile for responsible learning, using the categories; Always, Usually, Sometimes, Rarely.

- Brings required equipment to class / is prepared
- Listens attentively and follows instructions
- Participates positively in class and discussions
- Interacts positively with teachers and students
- Works independently and is self motivated
- Meets homework/assignment deadlines

Special Notes

- **Homework** will be given on a regular basis and its completion and follow-up is considered to play an important part in building student confidence and skills in Mathematics.
- **Calculators** and their effective use are an essential part of the Year 9 Mathematics Course and all students are required to have a scientific calculator with them in every mathematics lesson. The external School Certificate Examination contains a non-calculator section so students need to be able to complete calculations with and without a calculator. We strongly recommend you purchase a calculator through the Finance Office at Bowral High where we sell an approved calculator **at cost price**. This calculator is suitable for use through to Year 12 and beyond. Calculators purchased elsewhere may not have the required features.
- **Calculators may be used in the relevant sections of the Year 9 across the form tests.**
- **Geometry Equipment:** All students are expected to have a set of geometrical instruments consisting of a pair of compasses, a protractor, a setsquare, a ruler and a pencil. At the moment a geometry set is offered free as a bonus item with the purchase of a calculator through the Finance Office (see above).
- **Work Books:** We recommend students purchase a 240 page, 5mm Grid Book for use in Mathematics. Loose-leaf folders are not permitted in junior Mathematics.

- If, at any time, you would like to discuss your child's progress in Mathematics you may contact their Mathematics Teacher or Mr Reynolds, on 48612255.

M. Reynolds - Head Teacher Mathematics