



# Otumoetai College

## Mathematics Department

### Year 9 Mathematics for Advanced Learners

### MAALA 2011

#### WHAT IS MATHEMATICS?

Mathematics is the study of numbers, shapes and patterns. You will learn to think logically. You will also come to understand some properties of numbers even when you do not know what the number is. You will learn to calculate, estimate and communicate your answers effectively.

Mathematics is a skill that is essential for working in the technological age. You must have an understanding of mathematics to be allowed to train for most interesting and challenging jobs.

At Otumoetai College all students in years 9 – 11 are required to study mathematics and nearly all students in year 12 also study mathematics.

#### Topics

The main headings under which you will study mathematics in Year 9 are:

1. Angles
2. Measurement
3. Probability
4. Relations and Graphing
5. Space and Shape
6. Constructions and Transformations
7. Algebra
8. Number

#### Advanced Learners

Our Advanced Learners Programme caters for those who like a challenge but do not feel they are being extended by the regular mathematics programme. Included in this area are the Development Band Activities as documented in the 'Mathematics in the New Zealand Curriculum document'. All students will be expected to complete the Development Band activities.

In addition to this, students in the Mathematics for Advanced Learners Programme, Level 1 will be prepared to sit NCEA level 2 Mathematics in Year 11, effectively covering three year's material in two years. No external exams will be sat by these students until the end of Year 11.

As well as having a series of challenging problems to solve under the guidance of a member of the mathematics staff, you will be expected to enter the National Bank NZ mathematics competition and the Australian mathematics competition. There will be a small charge to cover entry fees for these competitions. There is also a quiz competition between the BOP schools in which we enter teams.

Each year students from the Mathematics Advanced Learners' programme in years 9, 10 and 11 have the opportunity to be involved in a field trip. This is run over two days, with the first being an out of school activity and the second being school based. The approximate cost for the trip is \$60.

## Homework

One of the difficulties of learning mathematics is that what you learn one day is needed to understand what comes next. It is very important to review what you have learnt. Also the only successful way to become good at solving problems is to practise this skill.

These aims are achieved by doing the homework that has been set by your teacher.

In 2011 Mathletics, a commercial web based computer package, will be used for mathematics homework. The cost will be \$30 for the year. For more information concerning Mathletics, please see the attached leaflet.

Homework includes (as a guide):

- Completing any set problems
- Reading through the notes given each lesson
- Revising and consolidating skills
- Learning the spelling and meaning of words in mathematics
- Completing any unfinished work, e.g. diagrams, graphs or exercises
- Copying notes and catching up on exercises missed through illness or co-curricular activities
- Continuing work on any assignment that requires an extended amount of time
- Revising for an assessment

As you can see, there is no such thing as “**I haven't got any maths homework**”.

## Homework Completed on a Computer

Any additional work completed on a computer should be backed up on a disc. Should a computer or printer malfunction the night before the work is to be handed in the disc will be evidence that it was completed on time. A hard copy will have to be produced at school that day from the disc.

## Investigations

Certain topics throughout the year lend themselves to investigation work. You will be required to investigate certain relationships and/or rules of mathematics in order to understand better the reasons they exist. Your mathematics teacher will advise you of the investigations to be covered throughout the year. These will be used to assess Mathematical Processes.

## **Assessment**

Tests will be completed at the end of each unit. Project work and investigations will also be undertaken to assess mathematical processes. There will be an end of year examination covering the entire year's work.

## **Moderation between Classes**

All class assessments and examinations are common to all classes and have a common marking schedule. Inter-class moderation is achieved by check marking across the classes.

## **Authenticity of Student Work**

All work must be the students own. If a staff member is in doubt the student will be asked to provide further evidence, orally or in writing, by explaining or solving a similar problem etc. An inadequate explanation will result in non achievement being awarded.

## **Appeals**

If a student is not satisfied with a particular assessment result, the student must discuss it with the class teacher **before** the assessment leaves the room.

Students not satisfied with the discussions should approach Mr Dixon, who is in charge of the Mathematics Department, as soon as possible, provided the assessment does not leave the room and is handed to Mr Dixon, by the classroom teacher.

**Your teacher and the Mathematics Department** have the responsibility to help you achieve to your full potential.

**You** have the responsibility to complete all set work to the best of your ability, to be in class on time, to meet all deadlines and to act and behave in a responsible manner so that you can achieve to your potential. Your behaviour in the class should not impact on the other people in the classroom.

## **Reports**

The first report will be an interim report in Term 1, Week 9, followed by a Report Evening in Term 2, Week 2. The second report is issued during Term 2, Week 11, and a third one at the end of the year.

**Good Luck for 2011**

**J. Ellwood  
Assistant HOD Mathematics  
February 2011**