



Stephen's School – Carramar Campus

Mathematics Learning Area

Year 9 – Student Course Notes 2008

1. All students must have the following equipment as well as their textbook: pens; pencils; eraser; ruler; Math-Aid; Proliner; graph paper; and a suitable scientific calculator.
2. Students must keep and maintain a Mathematics Journal.
3. Investigations and problem solving form part of the assessment schedule.
4. Students must keep a portfolio containing all assessments. Parents are expected to sight and sign these.
5. At the end of each topic it is a good idea to file all work at home in a way that helps examination revision later in the semester.
6. Mathematics classes are grouped based on ability levels. It is normal for a small number of students to be moved into a more challenging or less demanding mathematics course depending on how well they are coping with their current mathematics course.
7. During significant assessments teachers may permit students to prepare 1 A4 page of notes to be used during the assessment. On occasions the student's mathematics journal may also be permitted.
8. In the interest of fairness and as stated in the school Assessment Policy, students who are absent for any significant mathematics assessment are expected to produce a medical certificate. Failure to do so may result in a zero score for the missed assessment.
9. Only approved calculators as stated on the booklist for this course are permitted in assessments. Some assessments or parts of assessment will be resource free. i.e. No calculators or notes permitted.
10. Homework is an integral part of our mathematics curriculum. Year 9 students should be completing an average of 25 - 35 minutes mathematics homework (fun work at home) at least 5 nights a week. Once class work and set homework has been completed students are expected to work on assignments, mathematics journals, extension work, revision, read ahead in text book etc.

Assessment Breakdown Year 9

Semester 1

Tests (Common to level)	65%
Investigations, problem solving and/or assignments	25%
Journal	10%

Assessment Breakdown Year 9

Semester 2

Tests (Common to level)	70%
Investigations, problem solving and/or assignments	25%
Journal	5%

Final mark for year will be the average of both semesters' marks.

Grades allocated (from high to low) will be A, B, C, D and E.

Parent Signature:

YEAR 9 MATHEMATICS MENTAL SKILLS

While the appropriate use of a calculator is a key objective, much of the “street mathematics” we do is performed mentally. These skills should be practiced regularly.

Furthermore, mental is useful for revising concepts previously taught or alerting you to skills to be used in lessons.

The following is a list of some of the skills that should be practiced in mental (after the relevant lessons have been taught in most cases).

- money operations
- units of time
- mixed operations with whole numbers
- multiplying & dividing by multiples of 10
- decimals multiplied or divided by a whole number
- continuing number sequences
- fraction of a quantity
- estimation of a computation by rounding
- factors, multiples, squares, square roots, cubes, cube roots, divisibility tests for whole numbers
- fraction/decimal/percentage equivalents
- percentage of a quantity
- solving simple equations
- comparisons of negative integers
- angle relationships
- using ratios
- calculating with a rate
- simple perimeters, areas & volumes
- recall of terminology
- spelling of terminology
- substitution into algebraic expressions
- simplifying simple algebraic expressions
- scientific notation
- recall of area formulas

St Stephen's School, Carramar

Year 9 Mathematics Foundations Program 2008

Teachers: Wendy Brown, Jane Robinson, Jennifer Key.

Text: Maths for WA 2 (Longman). Supplement lessons with Mathletics. (www.mathletics.com.au)

St Stephen's Maths Website: www.mathxyc.com

PROGRAM – TERM 1 – 2008

Week	Topic	Text Reference	Assessments	Extras Available
1-3	Chapter 1 Numbers • Whole Numbers • Decimal And Fractions • Directed Numbers • Indices • Percentages • Mental Strategies	Course book Exercise 1A o 1R (selected exercises only)	Test 1 week 3 on ch 1	Companion Website Technology Applications • Coldest Temperatures • Percentages To Fractions And Decimals • Number Properties
4-5	Chapter 2 Consumer Maths • Develop New Concepts: • Percentages Of Quantities • Percentage Change • Discount And Commission • Simple Interest And Best Buy	Course book Exercise 2A - 2L	EPW Test 2 week 5 on ch 2	Companion Website Technology Applications • Petrol To Lpg • Percentage Puzzle • Money Puzzle
6-7	Chapter 3 Measurement • Develop New Concepts: • Circumference Of A Circle • Composite Shapes • Area Of Trapezium, Circles And Sectors • Surface Area Of Prisms • Introducing volume (counting unit cubes, etc.)	Course book Exercise 3C – 3I, 3K, 3L	Test 3 week 7 on ch 3	Companion Website Technology Applications • Luggage Volumes • Units Of Length Puzzle • Maths Terms Puzzle • Units Of Capacity And Volume • Area And Volume Formulas

Week	Topic	Text Reference	Assessments	Extras Available
8-9	Chapter 4 Pythagoras Pythagoras' Theorem	Course book Exercise 4A To 4F	Collect journals for assessment during week 9 Test 4 week 9 on ch 4	Companion Website Technology Applications • Pythagorean Triples • Pythagoras Puzzle • Maths Terms Puzzle • Pythagoras Animation
10	Chapter 5 Trigonometry • Labelling Right-Angle Triangles • Tangent Ratios • Finding Sides And Angles Using Tan • Sine And Cosine Ratios • Finding The Hypotenuse <i>Continue Chapter 5 next term</i>	Course book Exercise 5A To 5I		Companion Website Technology Applications • Shooting For A Goal • Trigonometry Puzzle • Trig Ratios Animation

PROGRAM – TERM 2 – 2008

Week	Topic	Text Reference	Assessments	Extras Available
1-2	Continue Chapter 5 Trigonometry from last term		Test 5 week 2 on ch 5	
3-6 Staff Retreat Week 5	Chapter 6 Ratio And Rates - Ratio And Proportion - Simplifying Ratios - Develop New Concepts: - Using Ratios - Rates And Speed, Distance And Time - Graphs And Time	Course book Exercise 6A-6H	Test 6 week 6 on ch 6 EPW	Companion Website - Technology Applications - Speed, Distance And Time - Simplifying Ratios Puzzle - Rates Puzzle - Equivalent Ratios Puzzle
7-9	Chapter 7 Polygons And Polyhedra - Naming Angles - Complementary And Supplementary - Triangles, Quadrilaterals And Polygons - Angles In Parallel Lines - Congruent Shapes - Develop New Concepts: - Similar Shapes - Applications Of Similar Triangles - Drawing 3d Shapes	Course book Exercise 7A-7I, 7K	Collect journals for assessment during week 9 Test 7 week 9 on ch 7	Geometer's Sketchpad Companion Website - Quicktime Movies - Nets of Polyhedra
10	Chapter 9 Algebra And Number Patterns - Algebraic Expressions - Substitution - Formulas Develop New Concepts: - Collecting Like Terms - Expanding Brackets - Index laws Continue with Chapter 9 next term	Course book Exercise 9A – 9D, 9F-K, 9M, 9O		Companion Website Review Questions

PROGRAM – TERM 3 – 2008

Week	Topic	Text Reference	Assessments	Extras Available
1-3	Continue with Chapter 9 from last term		Test 8 week 3 on ch 9	
4-6	Chapter 10 Solving Linear Equations - Simple Equations - Develop New Concepts: - Solving Equations Using Flow Charts - Inverse Operations - Solving Equations With Brackets	Course book Exercise 10A-10E, 10G, 10H	Test 9 week 6 on ch 10	Companion Website Review Questions
7-9	Chapter 11 Linear Graphs - Revision: - Plotting Points - Develop New Concepts: - Linear Patterns And Simple Rules - Plotting Points From Rules - Horizontal And Vertical Lines - Gradients Of Straight Lines - Finding Equations Of Lines - The Gradient And Y-Intercept	Course book Exercise 11A-11G, 11I	EPW Collect journals for assessment during week 9 Test 10 week 9 on ch 11	Companion Website - Technology Applications - Points On A Line - Plotting Co-Ordinates - Lingraph Animation
10	Chapter 12 Quadratic Functions Develop New Concepts: - Solving Quadratic Equations - Key features of a parabola	Course book Exercise 12A, 12D		Companion Website Quick Time Movies - Parabolas In Headlights And Satellites Technology Applications - Quadratics - Quadratic Functions Puzzle

PROGRAM – TERM 4 – 2008

Week	Topic	Text Reference	Assessments	Extras Available
1-3	Chapter 13 Chance Develop New Concepts: • Sample Space Grids • Tree Diagrams • Simulations • Using Sampling Continue with Chapter 13 in term 4	Course book Exercise 13A – 13G	Test 11 week 3 on ch 12 & 13	Companion Website Technology Applications • Two Dice • Maths Terms • Spinners Puzzle • Probability Of Simple Events
4-5	Chapter 14 Statistics Revision: • Collecting Data • Column Graphs And Histograms Develop New Concepts: • The Interquartile Range • Stem And Leaf Plots • Mean And Median • Line Graphs	Course book Exercise 14A -14F	Test 12 week 5 on ch 14	Companion Website Technology Applications • World Temperatures • Types Of Graphs • Table Types Puzzle • Maths Terms Puzzle
6-7	Chapter 8 Transformations And Location • Transformations • Enlargements	Course book Exercise 8A -8E, 8H, 8I		Geometer's Sketchpad
8	Year 9 camp Final Awards Ceremony			