

YEAR 7 & 8 MATHEMATICS

TERM 1

- Unit Outline -



Course Description:

This unit incorporates the Western Australian Curriculum Mathematic content strands of *Number and Algebra*, *Measurement* and *Statistics and Probability*. The main focus of this unit is investigating numbers, data representation and interpretation and finding the area and perimeter of a variety of parallelograms.

Course Outcomes:

By the end of this unit you should be able to:

- Use efficient written and mental strategies to solve problems involving the four operations
- Solve problems using the order of operations
- Identify and apply index laws including multiplying and dividing indices and power indices
- Identify discuss the differences between Prime and Composite numbers
- Find the Lowest Common Multiple and Highest Common Factor of two numbers
- Identify and solve problems involving square roots
- Find and apply the formulas for area and perimeter of a parallelogram, trapezium, rhombus and kite
- Construct a sample space for an experiment and assign probabilities for events

Course Organisation:

Student's activities will include:

- Student based investigations to discover rules, laws and concepts
- Teacher directed instruction and explanation combined with student practise of a new skill
- Group and partner work to consolidate learning
- Using technologies to investigate, solve and present problems and skills

Course Timeline:

| Wk | Activity | Assessment |
|-----|---|--|
| 1-2 | Revision <ul style="list-style-type: none">• Revision of basic mathematical skills including solving problems involving the four operations | In class quiz- end of week 2 |
| 3 | Number and Place Value <ul style="list-style-type: none">• Compare, order, add and subtract integers• Order of Operations | Homework |
| 4 | Number and Place Value <ul style="list-style-type: none">• Square Roots | Class assigned work Homework |
| 5-6 | Number and Place Value <ul style="list-style-type: none">• Highest Common Multiples (HCM)• Lowest Common Factors (LCF)• Index laws<ul style="list-style-type: none">○ Multiplying Indices○ Dividing Indices○ Power Indices | Class assigned work Open book Test end of week 6 <ul style="list-style-type: none">○ Order of operations and○ Index laws○ Square roots○ HCM and LCF |
| 7 | Measurement and Geometry <ul style="list-style-type: none">• Find perimeters and areas of, and the formulas for, parallelograms, trapeziums, rhombuses and kites | Assignment- started in class, finish at home |

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|-----|--|--|
| 8-9 | Statistics and Probability <ul style="list-style-type: none"> • Sample space • Probability • Complementary events | Class investigation Open book Test end of week 9 |
| 10 | Measurement and Geometry <ul style="list-style-type: none"> • Solve problems involving duration, including using 12 and 24 hour time | Class assigned work |

Course Vocabulary:

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|--|---|
| <ul style="list-style-type: none"> • Index/indices • Base number • Index form • Expanded form • Highest Common Multiples • Lowest Common Factors • Power • Squared • Cubed • Square root • integer • 12 hour time • 24 hour time • Time zone | <ul style="list-style-type: none"> • Lapsed time • Perimeter • Area • Equivalent • Kite • Parallelogram • Rhombus • Area • Trapezium • Sample space • Probability • BIMDAS • Order of operations |
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- Assessment Outline -

Course Assessment:

| Wk | Assessment type | Weighting | Marks achieved | Your Total |
|-------|--|-----------|----------------|------------|
| 2 | Quiz | 10%* | | |
| 6 & 9 | Test | 40%* | | |
| 3-9 | All homework pieces combined | 10%* | | |
| 1-9 | Selected classroom work** In class investigations | 30%* | | |
| 1-9 | Classroom behaviour, attitude and contributions | 10%* | | |

**specific marks to be advised and are subject to change*

*** Students may not be told which piece of classroom work is to be collecting for marking until the activity is complete.*

Specific Equipment required for each lesson:

- File/book to write in
- Pens, ruler,
- Scientific calculator