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# Year 8 SyllabusTest

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**Year Level Description**

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### Year Levels

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### Strands

- ☒ Select All
- ☒ Statistics and Probability
- ☒ Measurement and Geometry
- ☒ Number and Algebra

### General Capabilities

- ☒ Select All
- ☒ Literacy
- ☒ Numeracy
- ☒ Information and Communication Technology (ICT) capability

# Year 8 Syllabus

## Year Level Descriptors

The proficiency strands of **reasoning** are an integral part of the mathematics curriculum. The proficiency strands are: number and algebra, measurement and geometry, statistics and probability. The proficiency strands provide the language for describing mathematics. The proficiency strands are the proficiencies.

At this year level:

- **understanding** includes understanding decimals, identifying arithmetic, connecting purpose of statistics area
- **fluency** includes integers; recognising recurring decimal evaluating perimeter dimensional objects
- **problem-solving** involving ratios, using two-way tables
- **reasoning** includes reasonable, deriving

- ✔ Critical and creative thinking
- ✔ Personal and social capability
- ✔ Ethical understanding
- ✔ Intercultural understanding

deduce properties of populations.

## Number and Algebra


### NUMBER AND PLACE VALUE

Use index notation for powers of numbers to establish index laws with positive integral indices and zero index [\(ACMNA183\)](#)

#### Numeracy

Carry out the four operations with rational numbers and integers using efficient mental and written strategies and appropriate digital technologies [\(ACMNA183\)](#)

#### Numeracy

 Information and Communication Technology (ICT) capability

## REAL NUMBERS

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Investigate terminating and recurring decimals  
([ACMNA184](#))

 Numeracy


Investigate the concept of irrational numbers including  $\pi$  ([ACMNA](#)


 Numeracy

Solve problems involving the use of percentages including percentage increases and decreases with and without digital technologies  
([ACMNA187](#))

 Literacy

 Numeracy

 Information and Communication Technology (ICT) capability


 Critical and creative thinking


Solve a range of

problems involving  
and ratios, with and  
without digital  
technologies  
[\(ACMNA188\)](#)

 Literacy

 Numeracy

 Information and  
Communication Techno  
(ICT) capability


 Critical and creativ  
thinking


## MONEY AND FINANCIAL MATHEMATICS

Solve problems involv  
profit and loss, with  
without digital  
technologies  
[\(ACMNA189\)](#)

 Literacy

 Numeracy

 Information and  
Communication Techno  
(ICT) capability

 Critical and creativ  
thinking

## PATTERNS AND ALGEBRA

Extend and apply the distributive law to the expansion of algebraic expressions [\(ACMNA190\)](#)

 Numeracy

Factorise algebraic expressions by identifying numeric factors [\(ACMNA191\)](#)

 Numeracy


Simplify algebraic expressions involving four operations [\(ACMNA192\)](#)

 Numeracy

## LINEAR AND NON-LINEAR RELATIONSHIPS


Plot linear relations on the Cartesian plane with and without the aid of digital technology [\(ACMNA193\)](#)

 Numeracy

 Information and  
Communication Techno  
(ICT) capability

Solve linear equations  
using algebraic and  
graphical techniques  
Verify solutions by  
substitution ([ACMNA](#)

 Numeracy

 Critical and creative  
thinking

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## Year 8 Achievement

### Number and Algebra

At Standard, students  
percentages. They  
describe rational ar  
loss. Students make  
expressions. They u  
operations with inte  
solve linear equations

### Measurement and

Students solve problems involving perimeter and area of triangles and deduce the area of circles and calculate the perimeter and area of circles and calculate the area of circles and calculate the area of circles

### **Statistics and Probability**

Students model real-world situations and choose appropriate statistical measures to represent the data and calculate the standard deviation and calculate the standard deviation

The proficiency strands **understanding, fluency, problem-solving** are developed across the three content strands: number and algebra, measurement and geometry, and statistics and probability. The proficiency strands reinforce the significance of working mathematically and provide the language to build in the development of mathematical proficiency. The achievement standards reflect the content and encompass the proficiency strands.

At this year level:

- **understanding** includes describing patterns involving indices and powers, operations with algebra and arithmetic, connecting rules for operations, statistical measures and explaining measurements of perimeter and area
- **fluency** includes calculating accurately with simple decimals and fractions including recurring decimals; factorising numbers and areas of common shapes and volumes of three-dimensional figures



- **problem-solving** includes formulating and modelling practical problems, calculating the perimeters of common shapes and using two-way tables and
- **reasoning** includes justifying the result of a calculation or estimation, using congruence to deduce properties of triangles

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