


Year 10A Syllabus

Number and Algebra

REAL NUMBERS


Define rational and irrational numbers and perform operations with surds and fractional indices
[\(ACMNA264\)](#)

 Numeracy

 Critical and creative thinking

Use the definition of a logarithm to establish and apply the laws of logarithms
[\(ACMNA265\)](#)

 Numeracy

 Critical and creative thinking


PATTERNS AND ALGEBRA

Measurement and Geometry

USING UNITS OF MEASUREMENT

Solve problems involving surface area and volume of right pyramids, right cones, spheres and related composite solids
[\(ACMMG271\)](#)


 Numeracy

 Critical and creative thinking

GEOMETRIC REASONING

Prove and apply angle and chord properties of circles
[\(ACMMG272\)](#)

 Numeracy

 Critical and creative thinking


Statistics and Probability


CHANCE

Investigate reports of studies in digital media and elsewhere for information on their planning and implementation
[\(ACMSP277\)](#)

 Literacy

 Numeracy

 Information and Communication Technology (ICT) capability


 Critical and creative thinking

DATA REPRESENTATION AND INTERPRETATION

Calculate and interpret the mean and standard deviation of

Investigate the concept of a polynomial and apply the factor and remainder theorems to solve problems
[\(ACMNA266\)](#)


 Numeracy

 Critical and creative thinking

LINEAR AND NON-LINEAR RELATIONSHIPS

Describe, interpret and sketch parabolas, hyperbolas, circles and exponential functions and their transformations
[\(ACMNA267\)](#)

 Numeracy

 Critical and creative thinking

Solve simple exponential equations
[\(ACMNA270\)](#)


 Numeracy

 Critical and creative

PYTHAGORAS AND TRIGONOMETRY


Establish the sine, cosine and area rules for any triangle and solve related problems
[\(ACMMG273\)](#)


 Numeracy

 Critical and creative thinking

Use the unit circle to define trigonometric functions, and graph them with and without the use of digital technologies
[\(ACMMG274\)](#)

 Numeracy


 Information and Communication Technology (ICT) capability

 Critical and creative thinking

Solve simple trigonometric


data and use these to compare data sets
[\(ACMSP278\)](#)

 Numeracy


 Critical and creative thinking

Use information technologies to investigate bivariate numerical data sets. Where appropriate use a straight line to describe the relationship allowing for variation
[\(ACMSP279\)](#)

 Numeracy

 Information and Communication


Technology (ICT) capability

 Critical and creative thinking

thinking


Apply understanding of polynomials to sketch a range of curves and describe the features of these curves from their equation [\(ACMNA268\)](#)

 Numeracy

 Critical and creative thinking


Factorise monic and non-monic quadratic expressions and solve a wide range of quadratic equations derived from a variety of contexts [\(ACMNA269\)](#)

 Numeracy

 Critical and creative thinking

equations [\(ACMMG275\)](#)

 Numeracy

 Critical and creative thinking

Apply Pythagoras' Theorem and trigonometry to solving three-dimensional problems in right-angled triangles [\(ACMMG276\)](#)

 Numeracy

Achievement standard

To be developed using (assessment) work sample evidence to 'set'

standards through paired comparisons.