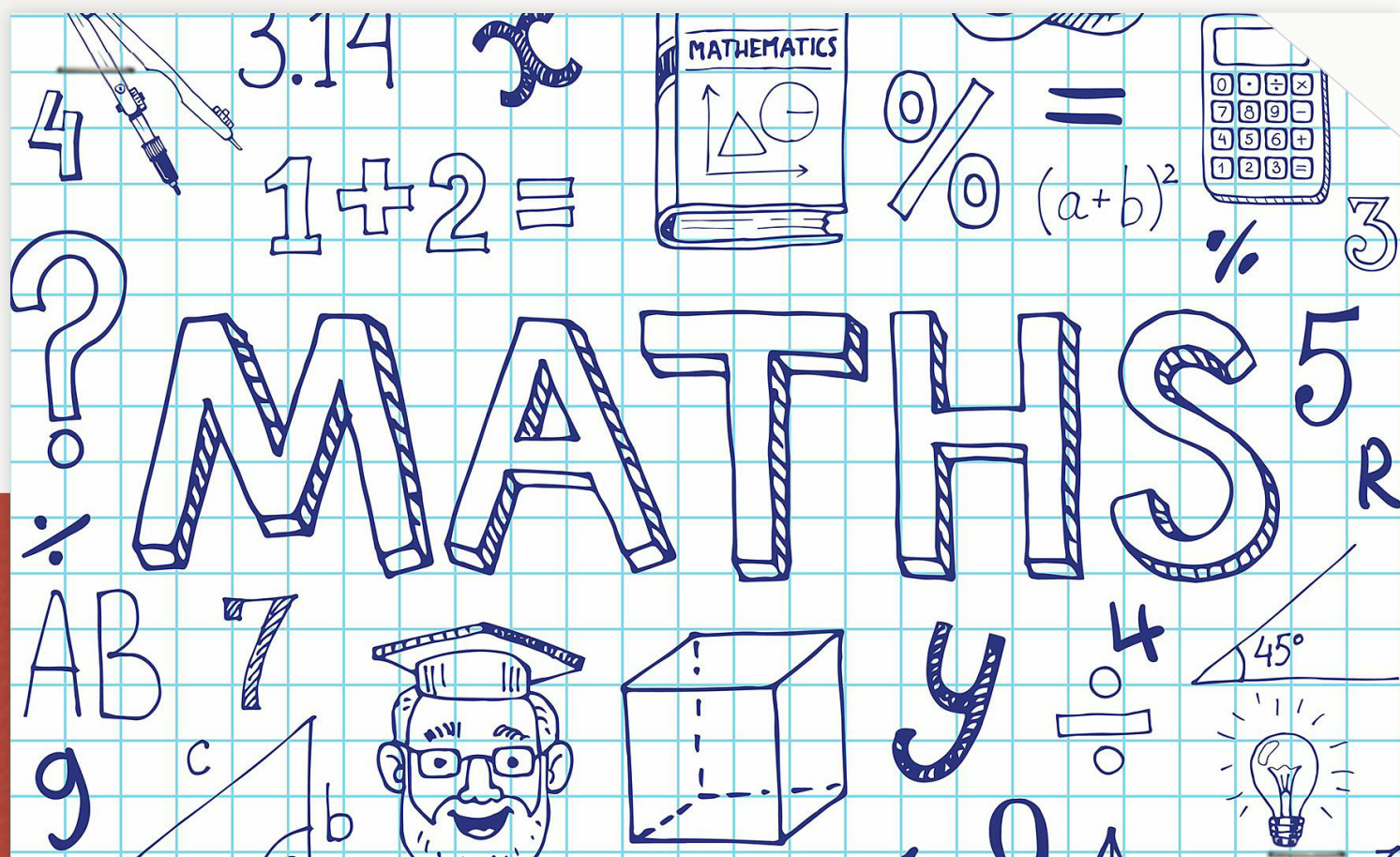


# Standard Mathematics

*"Not everything that counts can be counted. Not everything that can be counted counts."* Albert Einstein



## Year 12 Standard 1 Dot Point Booklet

*"Arithmetic is being able to count up to twenty without taking off your shoes."* Mickey Mouse

*"No employment can be managed without arithmetic, no mechanical invention without geometry."* Benjamin Franklin

3.14159265358979323846...

# Topic: Algebra

## Outcomes

### A student:

- › uses algebraic and graphical techniques to evaluate and construct arguments in a range of familiar and unfamiliar contexts MS1-12-1
- › represents the relationships between changing quantities in algebraic and graphical forms MS1-12-6
- › chooses and uses appropriate technology effectively and recognises appropriate times for such use MS1-12-9
- › uses mathematical argument and reasoning to evaluate conclusions, communicating a position clearly to others MS1-12-10

**Related Life Skills outcomes:** MALS6-1, MALS6-7, MALS6-8, MALS6-13, MALS6-14


## Topic Focus

Algebra involves the use of symbols to represent numbers or quantities and to express relationships, using mathematical models and applications.

Knowledge of algebra enables the modelling of a problem conceptually so that it is simpler to solve, before returning the solution to its more complex practical form.

Study of algebra is important in developing students' reasoning skills and logical thought processes, as well as their ability to represent and solve problems.

## Subtopics

MS-A3: Types of Relationships 

# Algebra

## MS-A3 Types of Relationships

### Outcomes

**A student:**

- › uses algebraic and graphical techniques to evaluate and construct arguments in a range of familiar and unfamiliar contexts MS1-12-1
- › represents the relationships between changing quantities in algebraic and graphical forms MS1-12-6
- › chooses and uses appropriate technology effectively and recognises appropriate times for such use MS1-12-9
- › uses mathematical argument and reasoning to evaluate conclusions, communicating a position clearly to others MS1-12-10

**Related Life Skills outcomes:** MALS6-1, MALS6-7, MALS6-8, MALS6-13, MALS6-14

### Subtopic Focus

The principal focus of this subtopic is the graphing and interpretation of relationships, and the use of simultaneous linear equations in solving practical problems.

Students develop their ability to communicate concisely, use equations to describe and solve practical problems, and use algebraic or graphical representations of relationships to predict future outcomes.

Within this subtopic, schools have the opportunity to identify areas of Stage 5 content which may need to be reviewed to meet the needs of students.

.....

.....

.....

.....

.....

.....

.....

.....

.....


.....

.....

# Content

## A3.1: Simultaneous linear equations

Students:

- solve a pair of simultaneous linear equations graphically, by finding the point of intersection between two straight-line graphs, using technology 

.....

.....

.....

.....

.....

.....

.....

.....

.....




.....

.....

.....

---

Students:

- develop a pair of simultaneous linear equations to model a practical situation **AAM**   

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....



.....

.....

.....



Students:

- solve practical problems that involve finding the point of intersection of two straight-line graphs, for example determine and interpret the break-even point of a simple business problem where cost and revenue are represented by linear equations **AAM**  

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....


.....

.....

---

**A3.2: Graphs of practical situations**

Students:

- construct a graph from a table of values both with and without technology 
  - use values of physical phenomena, eg the growth of algae in a pond over time, or the rise and fall of the tide against a harbour wall over time to plot graphs and make predictions

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Students:

- sketch the shape of a graph from a description of a situation, for example the time passed and the depth of water in different shaped containers, or the speed of a race car as it moves around different shaped tracks ⚙️

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

---

Students:

- determine the best model (linear or exponential) to approximate a graph by considering its shape, using technology where appropriate **AAM** 🖱️ ⚙️ 💻

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Students:

- identify the strengths and limitations of linear and non-linear models in given practical contexts

**AAM** ⚙️

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

---

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

# Topic: Measurement

## Outcomes

### A student:

- › interprets the results of measurements and calculations and makes judgements about their reasonableness MS1-12-3
- › analyses simple two-dimensional and three-dimensional models to solve practical problems MS1-12-4
- › chooses and uses appropriate technology effectively and recognises appropriate times for such use MS1-12-9
- › uses mathematical argument and reasoning to evaluate conclusions, communicating a position clearly to others MS1-12-10

**Related Life Skills outcomes:** MALS6-3, MALS6-4, MALS6-13, MALS6-14

## Topic Focus

Measurement involves the application of knowledge, skills and understanding of numbers and geometry to quantify and solve problems in practical situations.

Knowledge of measurement enables an understanding of basic daily situations involving rates and ratios, such as speed and the interpretation of maps and plans, effectively in a variety of situations.

Study of measurement is important in developing students' ability to solve problems related to two-dimensional and three-dimensional models and representations and to work effectively with a variety of rates and ratios.

## Subtopics

MS-M3: Right-angled Triangles 0

MS-M4: Rates

MS-M5: Scale Drawings



# Measurement

## MS-M3 Right-angled Triangles

### Outcomes

**A student:**

- › interprets the results of measurements and calculations and makes judgements about their reasonableness MS1-12-3
- › analyses simple two-dimensional and three-dimensional models to solve practical problems MS1-12-4
- › chooses and uses appropriate technology effectively and recognises appropriate times for such use MS1-12-9
- › uses mathematical argument and reasoning to evaluate conclusions, communicating a position clearly to others MS1-12-10

**Related Life Skills outcomes:** MALS6-3, MALS6-4, MALS6-13, MALS6-14

### Subtopic Focus

The principal focus of this subtopic is to solve problems involving right-angled triangles in a range of practical contexts using Pythagoras’ theorem and basic trigonometric ratios.

Students develop their ability to justify mathematical thinking and to communicate solutions.

Within this subtopic, schools have the opportunity to identify areas of Stage 5 content which may need to be reviewed to meet the needs of students.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....




.....

.....

.....

Content

Students:

- review the application of Pythagoras’ theorem to solve practical problems in two dimensions **AAM**  
  

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....


.....

.....

.....

.....

Students:

- review and extend the use of trigonometric ratios (sin, cos, tan) to solve practical problems **AAM** 
  - work with angles correct to the nearest degree and/or minute

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Students:

- understand various navigational methods
  - understand the difference between compass and true bearings
  - investigate navigational methods used by different cultures, including but not limited to those of Aboriginal and Torres Strait Islander Peoples 🖐️ ⚙️

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

---

Students:

- solve practical problems involving angles of elevation and depression and bearings **AAM** 📏 ⚙️ 🖥️  
📖
  - convert between compass and true bearings, eg convert N35°W into a true bearing

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

# Measurement

## MS-M4 Rates

## Outcomes

**A student:**

- › interprets the results of measurements and calculations and makes judgements about their reasonableness MS1-12-3
- › chooses and uses appropriate technology effectively and recognises appropriate times for such use MS1-12-9
- › uses mathematical argument and reasoning to evaluate conclusions, communicating a position clearly to others MS1-12-10

**Related Life Skills outcomes:** MALS6-3, MALS6-13, MALS6-14

## Subtopic Focus

The principal focus of this subtopic is the use of rates to solve problems in practical contexts.

Students develop awareness of the use of rates and solve problems in everyday situations such as health sciences, travel and finance.

Within this subtopic, schools have the opportunity to identify areas of Stage 5 content which may need to be reviewed to meet the needs of students.

This image shows a full page of white paper with horizontal dotted lines. The lines are evenly spaced and run across the width of the page, providing a guide for handwriting practice. There are no margins, text, or other markings on the page.



# Content

Students:

- use, simplify and convert between units of rates, for example km/h and m/s, mL/min and L/h (ACMEM071, ACMEM072)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

---

Students:

- use rates to solve practical problems **AAM**
  - use rates to make comparisons, eg using unit prices to compare best buys, comparing heart rates after exercise (ACMEM016, ACMEM074) ⚙️ 📊 📈
  - use rates to determine costs, eg calculating the cost of a trade professional using rates per hour and call-out fees (ACMEM075) ⚙️ 📊 📈
  - work with speed as a rate, including interpreting distance-time graphs (travel graphs) and use them to solve problems related to speed, distance and time ⚙️ 📊 📈
  - calculate the amount of fuel used on a trip, given the fuel consumption rate, and compare fuel consumption statistics for various vehicles

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Students:

- solve problems involving heart rates and blood pressure **AAM**
  - describe heart rate as a rate expressed in beats per minute
  - measure and graph a person’s heart rate over time under different conditions and identify mathematical trends **††**
  - calculate target heart rate ranges during training **††**
  - express blood pressure using measures of systolic pressure and diastolic pressure
  - measure blood pressure over time and under different conditions
  - use a blood pressure chart and interpret the ‘healthiness’ of a reading **††**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

---

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

# Measurement

## MS-M5 Scale Drawings

### Outcomes

**A student:**

- › interprets the results of measurements and calculations and makes judgements about their reasonableness MS1-12-3
- › analyses simple two-dimensional and three-dimensional models to solve practical problems MS1-12-4
- › chooses and uses appropriate technology effectively and recognises appropriate times for such use MS1-12-9
- › uses mathematical argument and reasoning to evaluate conclusions, communicating a position clearly to others MS1-12-10

**Related Life Skills outcomes:** MALS6-3, MALS6-4, MALS6-13, MALS6-14

### Subtopic Focus

The principal focus of this subtopic is to interpret and use scale drawings and use similarity in solutions to practical problems involving measurement.

Students develop their ability to interpret and use house plans, designs and maps in the calculation of a range of measurements and solve related problems.

Within this subtopic, schools have the opportunity to identify areas of Stage 5 content which may need to be reviewed to meet the needs of students.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

# Content

Students:

- solve practical problems involving ratio, for example map scales, mixtures for building materials or cost per item **AAM** ⚙️💻
  - work with ratio to express a ratio in simplest form, to find the ratio of two quantities and to divide a quantity in a given ratio
  - use ratio to describe map scales

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

---

Students:

- use the conditions for similarity of two-dimensional figures, including similar triangles, to solve related problems

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....



Students:

- use the linear scale factor for two similar figures to solve problems (ACMGM022)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

---

Students:

- obtain measurements from scale drawings, including but not limited to maps (including cultural mappings or models) or building plans, to solve problems **AAM** 🖐️ ⚙️
  - interpret commonly used symbols and abbreviations on building plans and elevation views 📐

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Students:

- estimate and compare quantities, materials and costs using actual measurements from scale drawings, for example using measurements for packaging, clothing, cooking, painting, bricklaying and landscaping including sustainability issues **AAM** 🌱 🏠

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

---

Students:

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

# Topic: Financial Mathematics

## Outcomes

### A student:

- › makes informed decisions about financial situations likely to be encountered post-school MS1-12-5
- › chooses and uses appropriate technology effectively and recognises appropriate times for such use MS1-12-9
- › uses mathematical argument and reasoning to evaluate conclusions, communicating a position clearly to others MS1-12-10

**Related Life Skills outcomes:** MALS6-5, MALS6-6, MALS6-13, MALS6-14


## Topic Focus


Financial Mathematics involves the application of knowledge, skills and understanding of numbers to earning, spending, investing, saving and borrowing money.

Knowledge of financial mathematics enables students to analyse different financial situations, to calculate the best options for given circumstances, and to solve financial problems.

Study of financial mathematics is important in developing students' ability to make informed financial decisions, to be aware of the consequences of such decisions, and to manage personal financial resources effectively.

## Subtopics

MS-F2: Investment 

MS-F3: Depreciation and Loans 

# Financial Mathematics

MS-F2 Investment 

## Outcomes

**A student:**

- › makes informed decisions about financial situations likely to be encountered post-school MS1-12-5
- › chooses and uses appropriate technology effectively and recognises appropriate times for such use MS1-12-9
- › uses mathematical argument and reasoning to evaluate conclusions, communicating a position clearly to others MS1-12-10

**Related Life Skills outcomes:** MALS6-5, MALS6-6, MALS6-13, MALS6-14

## Subtopic Focus

The principal focus of this subtopic is to calculate and compare the value of different types of investments, including shares, over a period of time.

Students develop awareness of mechanisms to optimise their financial position, both now and into the future, justifying their thinking and reasoning mathematically.








Within this subtopic, schools have the opportunity to identify areas of Stage 5 content which may need to be reviewed to meet the needs of students.

[illegible]



# Content

Students:

- calculate the future value ( $FV$ ) or present value ( $PV$ ) and the interest rate ( $r$ ) of a compound interest investment using the formula  $FV = PV(1 + r)^n$  
  - compare the growth of simple interest and compound interest investments numerically and graphically, using technology  
  - investigate the effect of varying the interest rate, the term or the compounding period on the future value of an investment, using technology 
  - compare and contrast different investment strategies, performing appropriate calculations when needed   

.....

.....

.....

.....

.....

.....




.....

.....

.....

---

Students:

- solve practical problems involving compounding, for example determine the impact of inflation on prices and wages or calculate the appreciated value of items, for example antiques **AAM**    


.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

# Financial Mathematics

## MS-F3 Depreciation and Loans

### Outcomes

**A student:**

- › makes informed decisions about financial situations likely to be encountered post-school MS1-12-5
- › chooses and uses appropriate technology effectively and recognises appropriate times for such use MS1-12-9
- › uses mathematical argument and reasoning to evaluate conclusions, communicating a position clearly to others MS1-12-10

**Related Life Skills outcomes:** MALS6-5, MALS6-6, MALS6-13, MALS6-14

### Subtopic Focus

The principal focus of this subtopic is to gain an understanding of credit cards and reducing balance loans and that an asset may depreciate in value over time rather than appreciate.

Students develop their understanding of credit and loans in order to make informed financial decisions.

Within this subtopic, schools have the opportunity to identify areas of Stage 5 content which may need to be reviewed to meet the needs of students.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....





.....

.....

.....

# Content

Students:

- calculate the depreciation of an asset using the declining-balance method, using the formula  $S = V_0(1 - r)^n$ , where  $S$  is the salvage value of the asset after  $n$  periods,  $V_0$  is the initial value of the asset,  $r$  is the depreciation rate per period, expressed as a decimal, and  $n$  is the number of periods, and realise that this is the compound interest formula, with a negative value for  $r$  **AAM**   

  - use technology to investigate depreciating values, numerically and graphically  

.....

.....

.....

.....

.....

.....

.....






.....

.....

.....

---

Students:

- recognise a reducing balance loan as a compound interest loan with periodic repayments and use a spreadsheet to model a reducing balance loan   
  - recognise that a smaller or additional repayment may affect the term and cost of your loan 
  - use an online calculator to investigate the effect of the interest rate, the repayment amount or the making of an additional lump-sum payment, on the time taken to repay a loan 

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Students:

- recognise credit cards as an example of a reducing balance loan and solve practical problems relating to credit cards
    - identify the various fees and charges associated with credit card usage 📱💳
    - compare credit card interest rates with interest rates for other loans 💳
    - interpret credit card statements, recognising the implications of only making the minimum payment 📱💳
    - understand what is meant by an interest-free period
    - calculate the compounding interest charged on a retail purchase, transaction or the outstanding balance for a given number of days, both with and without the use of technology
- AAM** 📱

.....

.....

.....

.....

.....

.....

.....

.....

---

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

# Topic: Statistical Analysis

## Outcomes

### A student:

- › analyses representations of data in order to make predictions and draw conclusions MS1-12-2
- › solves problems requiring statistical processes MS1-12-7
- › chooses and uses appropriate technology effectively and recognises appropriate times for such use MS1-12-9
- › uses mathematical argument and reasoning to evaluate conclusions, communicating a position clearly to others MS1-12-10

**Related Life Skills outcomes:** MALS6-2, MALS6-7, MALS6-8, MALS6-13, MALS6-14

## Topic Focus

Statistical Analysis involves the collection, display, analysis and interpretation of data to identify and communicate key information.

Knowledge of statistical analysis enables the careful interpretation of situations and raises awareness of contributing factors when presented with information by third parties, including the possible misrepresentation of information.

Study of statistical analysis is important in developing students' appreciation of how conclusions drawn from data can be used to inform decisions made by groups such as scientific investigators, business people and policy-makers.

## Subtopics

MS-S3: Further Statistical Analysis 

# Statistical Analysis

## MS-S3 Further Statistical Analysis

### Outcomes

**A student:**

- › analyses representations of data in order to make predictions and draw conclusions MS1-12-2
- › solves problems requiring statistical processes MS1-12-7
- › chooses and uses appropriate technology effectively and recognises appropriate times for such use MS1-12-9
- › uses mathematical argument and reasoning to evaluate conclusions, communicating a position clearly to others MS1-12-10

**Related Life Skills outcomes:** MALS6-2, MALS6-7, MALS6-8, MALS6-13, MALS6-14

### Subtopic Focus

The principal focus of this subtopic is the development of students’ understanding of the purpose and process of statistical investigation, taking into account appropriate basic design principles.

Students develop understanding of the complex nature of questionnaire design and potential misconceptions in statistical representations and reasoning.

Within this subtopic, schools have the opportunity to identify areas of Stage 5 content which may need to be reviewed to meet the needs of students.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....










.....



# Content


## S3.1: The statistical investigation process for a survey

Students:

- understand and use the statistical investigation process: identifying a problem and posing a statistical question, collecting or obtaining data, representing and analysing that data, then communicating and interpreting findings 
  - identify the target population to be represented (ACMEM132)
  - investigate questionnaire design principles, eg simple language, unambiguous questions, consideration of number of choices, how data may be analysed to address the original question, issues of privacy and bias, ethics, and responsiveness to diverse groups and cultures **AAM**      
  - implement the statistical investigation process to answer questions that involve comparing the data across two or more groups  

### S3.2: Exploring and describing data arising from two quantitative variables

Students:

- construct a bivariate scatterplot to identify patterns in the data that suggest the presence of an association (ACMGM052) **AAM** 

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....




.....

.....

.....

---

Students:

- use bivariate scatterplots (constructing them when needed) to describe the patterns, features and associations of bivariate datasets, justifying any conclusions **AAM** 
  - describe bivariate datasets in terms of form (linear/non-linear) and, in the case of linear, the direction (positive/negative) and strength of any association (strong/moderate/weak)
  - identify the dependent and independent variables within bivariate datasets where appropriate
  - describe and interpret a variety of bivariate datasets involving two numerical variables using real-world examples from the media, or freely available from government and business datasets  

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....



.....

.....

Students:

- model a linear relationship to the data by fitting a line of best fit by eye and by using technology (ACMEM141, ACMEM142) **AAM** 

Students:

- use the line of best fit to make predictions by either interpolation or extrapolation (ACMEM145)
- AAM**  
- recognise the limitations of interpolation and extrapolation (ACMEM146)

Students:

- collect data, interpret and construct graphs using contexts, for example sustainability, household finance and the human body **AAM** 🌱 🏠

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

---

Students:

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

# Topic: Networks

## Outcomes

### A student:

- › applies network techniques to solve network problems MS1-12-8
- › chooses and uses appropriate technology effectively and recognises appropriate times for such use MS1-12-9
- › uses mathematical argument and reasoning to evaluate conclusions, communicating a position clearly to others MS1-12-10

**Related Life Skills outcomes:** MALS6-11, MALS6-12, MALS6-13, MALS6-14

## Topic Focus

Networks involve the graphical representation and modelling of situations as an approach to decision-making processes.

Knowledge of networks enables development of a logical sequence of tasks or a clear understanding of connections between people or items.

Study of networks is important in developing students' ability to interpret a set of connections or sequence of tasks as a concise diagram in order to solve related problems.

## Subtopics

MS-N1: Networks and Paths

# Networks

## MS-N1 Networks and Paths

## Outcomes

**A student:**

- › applies network techniques to solve network problems MS1-12-8
- › chooses and uses appropriate technology effectively and recognises appropriate times for such use MS1-12-9
- › uses mathematical argument and reasoning to evaluate conclusions, communicating a position clearly to others MS1-12-10

**Related Life Skills outcomes:** MALS6-11, MALS6-12, MALS6-13, MALS6-14

## Subtopic Focus

The principal focus of this subtopic is to identify and use network terminology and to solve problems involving networks.

Students develop their awareness of the applicability of networks throughout their lives, for example social media networks, and their ability to use associated techniques to optimise practical problems.

This image shows a full page of a handwriting practice sheet. It consists of multiple horizontal rows, each defined by two parallel dotted lines. The rows are evenly spaced and extend across the entire width of the page, providing a guide for letter height and placement. There is no text or other markings on the page.



# Content

## N1.1: Networks

Students:

- identify and use network terminology, including vertices, edges, paths, the degree of a vertex, directed networks and weighted edges 🖱

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

---

Students:

- solve problems involving network diagrams **AAM**
  - recognise circumstances in which networks could be used, eg the cost of connecting various locations on a university campus with computer cables 🖱⚙🖨🔌
  - given a map, draw a network to represent the map, eg travel times for the stages of a planned journey ⚙
  - draw a network diagram to represent information given in a table

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

## N1.2: Shortest paths

Students:

- determine the minimum spanning tree of a given network with weighted edges, **AAM**
  - determine the minimum spanning tree by using Kruskal's or Prim's algorithms or by inspection
  - determine the definition of a tree and a minimum spanning tree for a given network

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

---

Students:

- find a shortest path from one place to another in a network with no more than 10 vertices **AAM** ⚙️
  - identify a shortest path on a network diagram
  - recognise a circumstance in which a shortest path is not necessarily the best path or contained in any minimum spanning tree ⚙️

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....