

Year 13 A2 Pure Term 1

1. Algebraic Methods

- Proof by contradiction
- Algebraic fractions
- Partial fractions
- Algebraic division

1

3. Sequences and Series

- Arithmetic sequences and series
- Geometric sequences and series
- Sum to infinity

3

5. Radians

- Radian measure
- Calculations with radians – arc length, areas of sectors and segments
- Solving trigonometric equations
- Small angle approximations

5

- The modulus function
- Functions and mappings
- Composite and inverse functions
- Combining transformations
- Solving modulus problems

2. Functions and Graphs

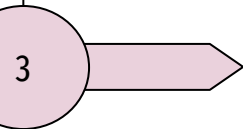
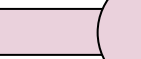
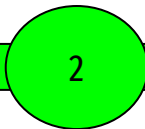
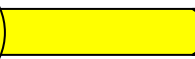
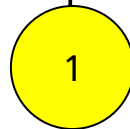
- Expanding brackets using the binomial expansion
- Using partial fractions in binomial expansion

4. Binomial Expansion

Year 13 A2 Statistics 2 Term 1 and 2

1. Regression, correlation and hypothesis testing

- Exponential models
- Measuring correlation
- Hypothesis testing for zero correlation



3. The Normal Distribution

- Finding probabilities
- The inverse normal distribution
- The standard normal distribution
- Approximating the normal distribution
- Hypothesis testing

• Set notation

• Conditional probabilities

• Probability formulae

• Tree diagrams

2. Conditional Probability

Year 13 A2 Mechanics 2 Term 1 and 2

1. Moments

- Constructing a model
- Modelling assumptions
- Quantities and units
- Vectors

3. Projectiles

- Force diagrams
- Forces and vectors
- Forces and acceleration
- Motion in 2 dimensions
- Connected particles
- Pulleys

5. Further Kinematics

- Types of Correlation
- Linear regression

1

2

3

4

5

- Displacement – time graphs
- Velocity – time graphs
- Constant acceleration formulae
- Vertical motion under gravity

2. Forces and Friction

- Functions of time
- Using differentiation
- Maxima and minima problems
- Using integration
- Constant acceleration formulae

4. Applications of Forces

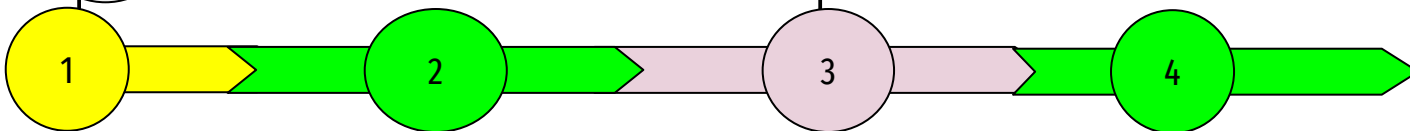
Year 13 A2 Pure Term 2 and 3

1. Trigonometric Functions

- Gradients of curves – finding the derivative
- Differentiation from standard results
- Gradients – tangents and normal
- Increasing / decreasing functions
- Second order derivatives and stationary points
- Sketching and modelling

3. Parametric Equations

- Exponential functions
- Exponential modelling
- Laws of Logarithms
- Solving equations using logs
- Working with natural logs
- Logarithms and non-linear data



- Integration and indefinite integrals
- Finding functions
- Definite integrals
- Application of integration to find areas under curves, axis and between curves and lines

2. Trigonometry and Modelling

- Angles in all four quadrants
- Exact trig ratios
- Trigonometric identities
- Solving trigonometric equations
- Equations and identities

4. Differentiation

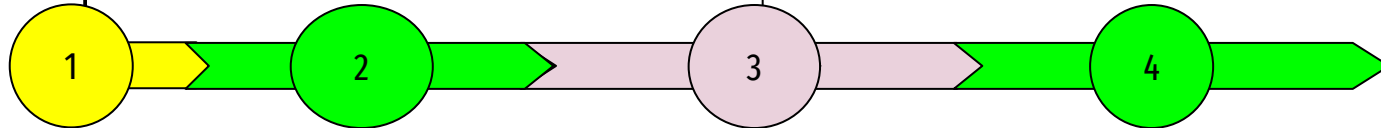
Year 13 A2 Pure Term 2 and 3

6. Numerical Methods

- Gradients of curves – finding the derivative
- Differentiation from standard results
- Gradients – tangents and normal
- Increasing / decreasing functions
- Second order derivatives and stationary points
- Sketching and modelling

7. Integration continued

- Exponential functions
- Exponential modelling
- Laws of Logarithms
- Solving equations using logs
- Working with natural logs
- Logarithms and non-linear data



- Integration and indefinite integrals
- Finding functions
- Definite integrals
- Application of integration to find areas under curves, axis and between curves and lines

7. Integration

- Angles in all four quadrants
- Exact trig ratios
- Trigonometric identities
- Solving trigonometric equations
- Equations and identities

8. Vectors