EZY MATHS

FOR STUDENTS
STUDYING FOR
A AND AS LEVEL
MATHEMATICS

A-LEVEL COURSE GUIDE

EzyMaths covers both AS and A-level and provides full content coverage.

Developed by EZY edtech

OUR MODEL

COMPREHENSIVE REPORTING

All student activity is recorded and teachers have access to enlightening reports which outline activity and attainment levels.

LECTURE VIDEOS

Each unit begins with a visual and dynamic video, explaining the key concepts and illustrative examples

FEEDBACK CYCLES

Every one of our 2000+questions has a bespoke feedback video which provides an opportunity to witness a worked solution before moving on to the next question.

AUTOMATED ASSESSMENTS

Each unit contains at least one assessment (usually 2 or 3). Questions are presented in a wide variety of formats and are all automatically marked.

WHEN CREATING EZYMATHS, WE WANTED EVERY VIDEO AND ASSESSMENT TO ADHERE TO 4 KEY PRINCIPLES:

1. **COMPREHENSIVE**
Whatever topic you are teaching, EzyMaths has it covered... in depth!

2. **INTERACTIVE**
We believe in the power of formative assessment. Each assessment begins with a series of scaffolded questions.

3. **ENGAGING**
Our resources are uber-visual, dynamic and delivered by a team passionate about A-level Maths.

4. **TEACHER-CENTRIC**
EzyMaths is designed to support all forms of teaching – with teachers driving and monitoring student activity.

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POTENTIAL USES

EzyMaths is designed to put teachers in charge and be used to support a wide variety of approaches. Here are just some examples:

AUTOMATED ASSESSMENTS

With over 200 assessments, covering the entire course, you can set plenty of work every week as you teach the syllabus.

FLIPPED LEARNING

Use EzyMaths to support flipped classrooms and blended learning. Know for sure whether or not students have completed their preparations.

MONITORING & INTERVENTION

Use our comprehensive reports to monitor student completion and identify problem areas to focus on in class.

PARENTS' EVENINGS

Print off our automated reports and hand them out at Parents' Evenings. Easy to evidence student effort and attainment levels.

REVISION TOOL

EzyMaths is the ideal revision tool. When exams approach, students have 24/7 access to resources covering every single topic in depth.

MATHS – COURSE OUTLINE

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SECTION 1 PROOF

Module 1 Methods of Proof and Disproof

A1.1	Proof by Deduction	L	AS
A1.1b	Proof by Deduction	A	AS
A1.2	Exhaustion and Counterexamples	L	AS
A1.2a	Exhaustion and Counterexamples	A	AS
A1.2b	Exhaustion and Counterexamples	A	AS

Module 2 Harder Proofs

A2.1	Proof by Contradiction	L	
A2.1a	Proof by Exhaustion	A	
A2.2	More Challenging Proofs	L	
A2.2a	Disproof by Counter Example	A	
A1.2b	Exhaustion and Counterexamples	A	

SECTION 2 ALGEBRA AND FUNCTIONS

Module 1 Indices and Surds

B1.1	Laws of Indices	L	AS
B1.1a	Laws of Indices	A	AS
B1.1b	Laws of Indices	A	AS
B1.1c	Laws of Indices	A	AS
B1.2	Manipulating Surds	L	AS
B1.2a	Manipulating Surds	A	AS
B1.3	Rationalising the Denominator	L	AS
B1.3a	Rationalising the Denominator	A	AS

Module 2 Quadratics

B2.1	Introduction to Quadratic Functions and Graphs	L	AS
B2.1a	Introduction to Quadratic Functions and Graphs	A	AS
B2.2	Factorising	L	AS
B2.2a	Factorising	A	AS
B2.2b	Factorising	A	AS
B2.3	Completing the Square	L	AS
B2.3a	Completing the Square	A	AS
B2.4	The Quadratic Formula	L	AS
B2.4a	The Quadratic Formula	A	AS
B2.5	The Discriminant	L	AS
B2.5a	The Discriminant	A	AS
B2.5b	The Discriminant	A	AS

Module 3 Simultaneous Equations

B3.1	Linear Simultaneous Equations	L	AS
B3.1a	Linear Simultaneous Equations	A	AS
B3.2	Simultaneous Equations with a Quadratic	L	AS
B3.2a	Simultaneous Equations with a Quadratic	A	AS

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Module 4 Inequalities			
B4.1	Solving Linear Inequalities	L	AS
B4.1a	Solving Linear Inequalities	A	AS
B4.2	Solving Quadratic Inequalities	L	AS
B4.2a	Solving Quadratic Inequalities	A	AS
B4.3	Representing Inequalities Graphically	L	AS
B4.3a	Representing Inequalities Graphically	A	AS

Module 5 Manipulating Polynomials			
B5.1	Introduction to Polynomials	L	AS
B5.1a	Introduction to Polynomials	A	AS
B5.2	Algebraic Simplification	L	AS
B5.2a	Algebraic Simplification	A	AS
B5.3	Algebraic Division	L	AS
B5.3a	Algebraic Division	A	AS
B5.4	Factor Theorem	L	AS
B5.4a	Factor Theorem	A	AS
B5.4b	Factor Theorem	A	AS

Module 6 Sketching and Using Graphs			
B6.1	Introduction to Sketching	L	AS
B6.1a	Introduction to Sketching	A	AS
B6.2	Sketching Quadratics	L	AS
B6.2a	Sketching Quadratics	A	AS
B6.3	Sketching Cubics	L	AS
B6.3a	Sketching Cubics	A	AS
B6.4	Sketching Higher Order Polynomials	L	AS
B6.4a	Sketching Higher Order Polynomials	A	AS
B6.5	Modulus Graphs	L	
B6.5a	Modulus Graphs	A	
B6.6	Reciprocal Graphs	L	AS
B6.6a	Reciprocal Graphs	A	AS
B6.7	Proportional Relationships and Graphs	L	AS
B6.7a	Proportional Relationships and Graphs	A	AS
B6.8	Interpreting solutions graphically	L	AS
B6.8a	Interpreting solutions graphically	A	AS

Module 7 Functions			
B7.1	Functions, Domains and Ranges	L	
B7.1a	Functions, Domains and Ranges	A	
B7.2	Composite Functions	L	
B7.2a	Composite Functions	A	
B7.3	Inverse Functions	L	
B7.3a	Inverse Functions	A	

Module 8 Transformations			
B8.1	Translations	L	AS
B8.1a	Translations	A	AS
B8.2	Enlargements	L	AS
B8.2a	Enlargements	A	AS
B8.3	Reflections	L	AS
B8.3a	Reflections	A	AS
B8.4	Combined Transformations	L	
B8.4a	Combined Transformations	A	

Module 9 Partial Fractions			
B9.1	Simple Partial Fractions	L	
B9.1a	Simple Partial Fractions	A	
B9.2	Advanced Partial Fractions	L	
B9.2a	Advanced Partial Fractions	A	

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SECTION 3 COORDINATE GEOMETRY

Module 1 Straight Lines

C1.1	Basic Equation of a Straight Line	L	AS
C1.1a	Basic Equation of a Straight Line	A	AS
C1.2	Other Straight Line Equation Formats	L	AS
C1.2a	Other Straight Line Equation Formats	A	AS
C1.3	Finding the Equation of a Straight Line	L	AS
C1.3a	Finding the Equation of a Straight Line	A	AS
C1.4	Parallel and Perpendicular Lines	L	AS
C1.4a	Parallel and Perpendicular Lines	A	AS

Module 2 Circles

C2.1	The Equation of a Circle	L	AS
C2.1a	The Equation of a Circle	A	AS
C2.2	Completing the square to find the centre and radius of a circle	L	AS
C2.2a	Completing the square to find the centre and radius of a circle	A	AS
C2.3	Using Circle Theorems	L	AS
C2.3a	Using Circle Theorems	A	AS

Module 3 Parametric Equations

C3.1	Introduction to Parametric Equations	L
C3.1a	Introduction to Parametric Equations	A
C3.2	Using Parametric Equations	L
C3.2a	Using Parametric Equations	A
C3.3	Converting between Cartesian and Parametric Equations	L
C3.3a	Converting between Cartesian and Parametric Equations	A

SECTION 4 SEQUENCES AND SERIES

Module 1 General Sequences

D1.1	nth term Sequences	L
D1.1a	nth term Sequences	A
D1.2	Iterative Function Sequences	L
D1.2a	Iterative Function Sequences	A
D1.3	Increasing, Decreasing and Periodic Sequences	L
D1.3a	Increasing, Decreasing and Periodic Sequences	A

Module 2 Arithmetic Sequences and Series

D2.1	Using Arithmetic Sequences	L
D2.1a	Using Arithmetic Sequences	A
D2.2	Find the nth Term of an Arithmetic Sequence	L
D2.2a	Find the nth Term of an Arithmetic Sequence	A
D2.3	Sigma Notation	L
D2.3a	Sigma Notation	A
D2.4	Sum of Arithmetic Series	L
D2.4a	Sum of Arithmetic Series	A
D2.5	Arithmetic Sequence and Series Problems	L
D2.5a	Arithmetic Sequence and Series Problems	A

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SECTION 5

TRIGONOMETRY

Module 3 Geometric Sequences and Series

D3.1	Using Geometric Sequences	L	
D3.1a	Using Geometric Sequences	A	
D3.2	Find the nth Term of a Geometric Sequence	L	
D3.2a	Find the nth Term of a Geometric Sequence	A	
D3.3	Finite Sum of a Geometric Series	L	
D3.3a	Finite Sum of a Geometric Series	A	
D3.4	Infinite Sum of a Geometric Series	L	
D3.4a	Infinite Sum of a Geometric Series	A	
D3.5	Geometric Sequence and Series Problems	L	
D3.5a	Geometric Sequence and Series Problems	A	
D3.6	Mixed Arithmetic and Geometric Problems	L	
D3.6a	Mixed Arithmetic and Geometric Problems	A	

Module 4 Binomial Expansion

D4.1	Introduction to Binomial Expansion	L	AS
D4.1a	Introduction to Binomial Expansion	A	AS
D4.2	Performing Binomial Expansions for Positive Integer n	L	AS
D4.2a	Performing Binomial Expansions for Positive Integer n	A	AS
D4.3	Binomial Expansions with any rational n	L	
D4.3a	Binomial Expansions with any rational n	A	
D4.4	Using Binomial Expansion to Approximate	L	
D4.4a	Using Binomial Expansion to Approximate	A	

Module 1 Definitions and Rules

E1.1	Definitions of sine, cosine and tangent	L	AS
E1.1a	Definitions of sine, cosine and tangent	A	AS
E1.2	Sine Rule	L	AS
E1.2a	Sine Rule	A	AS
E1.3	Cosine Rule	L	AS
E1.3a	Cosine Rule	A	AS
E1.4	Area of a Triangle	L	AS
E1.4a	Area of a Triangle	A	AS

Module 2 Radians

E2.1	Radian Measure	L	
E2.1a	Radian Measure	A	
E2.2	Arc Length and Sector Area	L	
E2.2a	Arc Length and Sector Area	A	
E2.3	Small Angle Approximations	L	
E2.3a	Small Angle Approximations	A	

Module 3 Trigonometric Functions

E3.1	Sine, cosine and tangent functions and graphs	L	AS
E3.1a	Sine, cosine and tangent functions and graphs	A	AS
E3.1b	Sine, cosine and tangent functions and graphs	A	AS
E3.2	Exact Radian sine, cosine and tangent values	L	
E3.2a	Exact Radian sine, cosine and tangent values	A	
E3.3	Secant, cosecant and cotangent functions and graphs	L	
E3.3a	Secant, cosecant and cotangent functions and graphs	A	
E3.4	Arcsin, arccos and arctan functions and graphs	L	
E3.4a	Arcsin, arccos and arctan functions and graphs	A	

Module 4 Trigonometric Formulae, Equations and Identities

E4.1	$\tan\theta=\sin\theta/\cos\theta$, $\sin^2\theta+\cos^2\theta=1$	L	AS
E4.1a	$\tan\theta=\sin\theta/\cos\theta$, $\sin^2\theta+\cos^2\theta=1$	A	AS
E4.2	Equations involving multiple angles	L	AS
E4.2a	Equations involving multiple angles	A	AS
E4.3	$\sec^2\theta=1+\tan^2\theta$, $\operatorname{cosec}^2\theta=1+\cot^2\theta$	L	
E4.3a	$\sec^2\theta=1+\tan^2\theta$, $\operatorname{cosec}^2\theta=1+\cot^2\theta$	A	
E4.4	Using standard formulae to prove identities	L	
E4.4a	Using standard formulae to prove identities	A	
E4.5	Compound Angle Formulae	L	
E4.5a	Compound Angle Formulae	A	
E4.6	Double Angle Formulae	L	
E4.6a	Double Angle Formulae	A	

Module 5 Manipulating $a\cos\theta + b\sin\theta$

E5.1	Expressing $a\cos\theta+b\sin\theta$ in form $\gamma\cos(\theta\pm\alpha)$	L	AS
E5.1a	Expressing $a\cos\theta+b\sin\theta$ in form $\gamma\cos(\theta\pm\alpha)$	A	AS
E5.2	Expressing $a\cos\theta+b\sin\theta$ in form $\gamma\sin(\theta\pm\alpha)$	L	AS
E5.2a	Expressing $a\cos\theta+b\sin\theta$ in form $\gamma\sin(\theta\pm\alpha)$	A	AS
E5.3	Harder Equations and Identities	L	
E5.3a	Harder Equations and Identities	A	

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SECTION 6 EXPONENTIALS AND LOGARITHMS

Module 1 Exponential Functions

F1.1	a^x	L	AS
F1.1a	a^x	A	AS
F1.2	e^x	L	AS
F1.2a	e^x	A	AS
F1.3	y=e^kx	L	AS
F1.3a	y=e^kx	A	AS
F1.3b	y=e^kx	A	AS

Module 2 Logarithms

F2.1	Definition of loga(x)	L	AS
F2.1a	Definition of loga(x)	A	AS
F2.1b	Definition of loga(x)	A	AS
F2.2	ln(x)	L	AS
F2.2a	ln(x)	A	AS
F2.2b	ln(x)	A	AS
F2.3	The Laws of Logarithms	L	AS
F2.3a	The Laws of Logarithms	A	AS
F2.3b	The Laws of Logarithms	A	AS
F2.3c	The Laws of Logarithms	A	AS
F2.4	Using Logarithms to solve a^x=b	L	AS
F2.4a	Using Logarithms to solve a^x=b	A	AS

Module 3 Exponential Growth and Decay

F3.1	Exponential Growth	L	AS
F3.1a	Exponential Growth	A	AS
F3.2	Exponential Decay	L	AS
F3.2a	Exponential Decay	A	AS

SECTION 7 DIFFERENTIATION

Module 1 Differentiation from 1st Principles

G1.1	Rates of Change	L	AS
G1.1a	Rates of Change	A	AS
G1.2	Derivative of f(x) as the gradient of the tangent	L	AS
G1.2a	Derivative of f(x) as the gradient of the tangent	A	AS
G1.3	Differentiation of small positive integer powers of x	L	AS
G1.3a	Differentiation of small positive integer powers of x	A	AS

Module 2 Elementary Differentiation and Applications

G2.1	Differentiation of x^n for rational values of n	L	AS
G2.1a	Differentiation of x^n for rational values of n	A	AS
G2.2	Differentiation of polynomials and simple quotients	L	AS
G2.2a	Differentiation of polynomials and simple quotients	A	AS
G2.3	Equations of tangents and normals	L	AS
G2.3a	Equations of tangents and normals	A	AS

Module 3 Stationary Points and Curve Sketching

G3.1	Stationary Points	L	AS
G3.1a	Stationary Points	A	AS
G3.2	Increasing and Decreasing Functions and Curve Sketching	L	AS
G3.2a	Increasing and Decreasing Functions and Curve Sketching	A	AS
G3.3	Practical Problems	L	AS
G3.3a	Practical Problems	A	AS

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SECTION 8

INTEGRATION

Module 4 Points of Inflection

G4.1	Stationary Points of Inflection	L
G4.1a	Stationary Points of Inflection	A
G4.2	Non-Stationary Points of Inflection	L
G4.2a	Non-Stationary Points of Inflection	A

Module 5 Product, Quotient and Chain Rules

G5.1	Product Rule	L
G5.1a	Product Rule	A
G5.2	Quotient Rule	L
G5.2a	Quotient Rule	A
G5.3	Chain Rule	L
G5.3a	Chain Rule	A
G5.4	Connected Rates of Change	L
G5.4a	Connected Rates of Change	A

Module 6 Differentiation of Trigonometric, Exponential and Logarithmic Functions

G6.1	Differentiation from 1st Principles of sinx and cosx	L
G6.1a	Differentiation from 1st Principles of sinx and cosx	A
G6.2	Differentiation of sinkx, coskx, tankx	L
G6.2a	Differentiation of sinkx, coskx, tankx	A
G6.3	Differentiation of e^kx and a^kx	L
G6.3a	Differentiation of e^kx and a^kx	A
G6.4	Differentiation of lnx	L
G6.4a	Differentiation of lnx	A

Module 7 Differentiation of Implicit and Parametric Functions

G7.1	Differentiation of Implicit Functions	L
G7.1a	Differentiation of Implicit Functions	A
G7.2	Differentiation of Parametric Functions	L
G7.2a	Differentiation of Parametric Functions	A

Module 1 Elementary Integration and Applications

H1.1	Fun. Theorem of Calculus and indef. integration of positive integer powers of x	L	AS
H1.1a	Fun. Theorem of Calculus and indef. integration of positive integer powers of x	A	AS
H1.2	Indefinite integration of rational powers of x excluding -1	L	AS
H1.2a	Indefinite integration of rational powers of x excluding -1	A	AS
H1.3	Area under a Curve	L	AS
H1.3a	Area under a Curve	A	AS
H1.4	Definite Integrals	L	AS
H1.4a	Definite Integrals	A	AS

Module 2 Integration of Standard Functions

H2.1	Integration of x^n and e^kx	L
H2.1a	Integration of x^n and e^kx	A
H2.2	Integration of sinkx, coskx and sec^2kx	L
H2.2a	Integration of sinkx, coskx and sec^2kx	A

Module 3 Further Integration and Area

H3.1	Integration as the limit of a sum	L
H3.1a	Integration as the limit of a sum	A
H3.2	Area between two curves	L
H3.2a	Area between two curves	A

Module 4 Methods of Integration

H4.1	Integration by Substitution	L
H4.1a	Integration by Substitution	A
H4.2	Integration by Parts	L
H4.2a	Integration by Parts	A
H4.3	Integration using Partial Fractions	L
H4.3a	Integration using Partial Fractions	A
H4.4	Integration using a mixture of methods	L
H4.4a	Integration using a mixture of methods	A

Module 5 Differential Equations

H5.1	Construction of Simple Differential Equations	L
H5.1a	Construction of Simple Differential Equations	A
H5.2	Solution of 1st Order Differential Equations with Separable Variables	L
H5.2a	Solution of 1st Order Differential Equations with Separable Variables	A
H5.3	Use of Differential Equations to solve problems	L
H5.3a	Use of Differential Equations to solve problems	A

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SECTION 9 NUMERICAL METHODS

Module 1 Numerical Solution Methods

I1.1	Locating roots through the sign-change search	L
I1.1a	Locating roots through the sign-change search	A
I1.2	Simple iterative methods	L
I1.2a	Simple iterative methods	A
I1.3	Cobweb and Staircase Diagrams	L
I1.3a	Cobweb and Staircase Diagrams	A
I1.4	Newton-Raphson Method	L
I1.4a	Newton-Raphson Method	A

Module 2 Numerical Integration

I2.1	Approximating the area under a curve	L
I2.1a	Approximating the area under a curve	A
I2.2	Trapezium Rule	L
I2.2a	Trapezium Rule	A

SECTION 10 VECTORS

Module 1 Vectors in 2 Dimensions

J1.1	Introduction to Vectors	L	AS
J1.1a	Introduction to Vectors	A	AS
J1.2	Vector addition and Multiplication by Scalars	L	AS
J1.2a	Vector addition and Multiplication by Scalars	A	AS
J1.3	Position Vectors and the Distance between 2 points	L	AS
J1.3a	Position Vectors and the Distance between 2 points	A	AS
J1.4	Vector Geometry and the Ratio Theorem	L	AS
J1.4a	Vector Geometry and the Ratio Theorem	A	AS

Module 2 Vectors in 3 Dimensions

J2.1	Vectors in 3 Dimensions	L	
J2.1a	Vectors in 3 Dimensions	A	

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SECTION 11
STATISTICAL SAMPLING

Module 1 Statistical Sampling			
K1.1	Population and Samples	L	AS
K1.1a	Population and Samples	A	AS
K1.2	Sampling Techniques	L	AS
K1.2a	Sampling Techniques	A	AS

SECTION 12
PRESENTING AND INTERPRETING DATA

Module 1 Diagrams for Single-Variable Data			
L1.1	Frequency Diagrams and Histograms	L	AS
L1.1a	Frequency Diagrams and Histograms	A	AS
L1.2	Cumulative Frequency Diagrams and Box + Whisker Plots	L	AS
L1.2a	Cumulative Frequency Diagrams and Box + Whisker Plots	A	AS

Module 2 Scatter Diagrams, Regression Lines and Correlation			
L2.1	Scatter Diagrams and Regression Lines	L	AS
L2.1a	Scatter Diagrams and Regression Lines	A	AS
L2.2	Correlation	L	AS
L2.2a	Correlation	A	AS

Module 3 Central Tendency and Variation			
L3.1	Measures of Central Tendency	L	AS
L3.1a	Measures of Central Tendency	A	AS
L3.2	Measures of Variation	L	AS
L3.2a	Measures of Variation	A	AS
L3.3	Calculation of Standard Deviation	L	AS
L3.3a	Calculation of Standard Deviation	A	AS

Module 4 Interpreting Data			
L4.1	Outliers and Cleaning Data	L	AS
L4.1a	Outliers and Cleaning Data	A	AS
L4.2	Statistical Problems	L	AS
L4.2a	Statistical Problems	A	AS

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SECTION 13 PROBABILITY

Module 1 Calculating Probability			
M1.1	Mutually Exclusive and Independent Events	L	AS
M1.1a	Mutually Exclusive and Independent Events	A	AS
M1.2	Discrete and Continuous Distributions	L	AS
M1.2a	Discrete and Continuous Distributions	A	AS

Module 2 Conditional Probability			
M2.1	Conditional Probability	L	
M2.1a	Conditional Probability	A	

Module 3 Modelling with Probability			
M3.1	Modelling with Probability	L	
M3.1a	Modelling with Probability	A	

SECTION 14 STATISTICAL DISTRIBUTIONS

Module 1 Discrete Probability Distributions			
N1.1	Simple Discrete Probability Distributions	L	AS
N1.1a	Simple Discrete Probability Distributions	A	AS
N1.2	The Binomial Distribution	L	AS
N1.2a	The Binomial Distribution	A	AS

Module 2 The Normal Distribution		
N2.1	Introduction to the Normal Distribution	L
N2.1a	Introduction to the Normal Distribution	A
N2.2	Use of the Normal Distribution	L
N2.2a	Use of the Normal Distribution	A
N2.3	Normal Approximation to the Binomial Distribution	L
N2.3a	Normal Approximation to the Binomial Distribution	A
N2.4	Selection of Probability Distributions	L
N2.4a	Selection of Probability Distributions	A

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SECTION 15
STATISTICAL HYPOTHESIS TEST

Module 1
Binomial Distribution Hypothesis Tests

O1.1	Language of Statistical Hypothesis Testing	L	AS
O1.1a	Language of Statistical Hypothesis Testing	A	AS
O1.2	Conducting a test for the Proportion in the Binomial Distribution	L	AS
O1.2a	Conducting a test for the Proportion in the Binomial Distribution	A	AS

Module 2
Other Hypothesis Tests

O2.1	Test for the mean of a Normal Distribution	L
O2.1a	Test for the mean of a Normal Distribution	A
O2.2	Test for the Correlation Coefficient	L
O2.2a	Test for the Correlation Coefficient	A

SECTION 16
QUANTITIES AND UNITS

Module 1
Quantities and Units

P1.1	Units in the S.I. system	L	AS
P1.1a	Units in the S.I. system	A	AS

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SECTION 17 KINEMATICS

Module 1 Elementary Kinematics

Q1.1	Basic Definitions	L	AS
Q1.1a	Basic Definitions	A	AS
Q1.2	Displacement-Time Graphs	L	AS
Q1.2a	Displacement-Time Graphs	A	AS
Q1.3	Velocity-Time Graphs	L	AS
Q1.3a	Velocity-Time Graphs	A	AS

Module 2 Constant Acceleration Formulae

Q2.1	Derivation and Use of Formulae	L	AS
Q2.1a	Derivation and Use of Formulae	A	AS
Q2.2	Extension to 2 Dimensions	L	
Q2.2a	Extension to 2 Dimensions	A	

Module 3 Use of Calculus in Kinematics

Q3.1	Motion in a Straight Line	L	AS
Q3.1a	Motion in a Straight Line	A	AS
Q3.2	Extension to 2 Dimensions	L	
Q3.2a	Extension to 2 Dimensions	A	

Module 4 Motion under Gravity

Q4.1	Vertical Motion under Gravity	L	
Q4.1a	Vertical Motion under Gravity	A	
Q4.2	Projectiles	L	
Q4.2a	Projectiles	A	

SECTION 18 FORCES AND NEWTON'S LAWS

Module 1 Newton's Laws

R1.1	Newton's 1st Law	L	AS
R1.1a	Newton's 1st Law	A	AS
R1.2	Newton's 2nd Law for Motion in a Straight Line	L	AS
R1.2a	Newton's 2nd Law for Motion in a Straight Line	A	AS
R1.3	Weight and Motion under Gravity	L	AS
R1.3a	Weight and Motion under Gravity	A	AS
R1.4	Newton's 3rd Law	L	AS
R1.4a	Newton's 3rd Law	A	AS
R1.5	Connected Particles Problems	L	AS
R1.5a	Connected Particles Problems	A	AS

Module 2 Resolution of Forces

R2.1	Resolving Forces in 2 Dimensions	L	
R2.1a	Resolving Forces in 2 Dimensions	A	
R2.2	Particle Moving on an Inclined Plane	L	
R2.2a	Particle Moving on an Inclined Plane	A	
R2.3	Equilibrium of a particle under coplanar forces	L	
R2.3a	Equilibrium of a particle under coplanar forces	A	
N2.4	Selection of Probability Distributions	L	
N2.4a	Selection of Probability Distributions	A	

Module 3 Resultant Forces

R3.1	Addition of Forces	L	
R3.1a	Addition of Forces	A	
R3.2	Dynamics for Motion in a plane	L	
R3.2a	Dynamics for Motion in a plane	A	

Module 4 Friction

R4.1	Coefficient of Friction	L	
R4.1a	Coefficient of Friction	A	
R4.2	Motion of a body on a rough surface	L	
R4.2a	Motion of a body on a rough surface	A	
R4.3	Limiting Friction and Statics	L	
R4.3a	Limiting Friction and Statics	A	

EZY MATHS

Each unit contains at least 1 lecture video and usually 2 or 3 assessments

SECTION 19

MOMENTS

Module 1 Moments		
S1.1	Introduction to Moments	L
S1.1a	Introduction to Moments	A
S1.2	Equilibrium of Rigid Bodies	L
S1.2a	Equilibrium of Rigid Bodies	A
S1.3	Problems involving parallel and non-parallel coplanar forces	L
S1.3a	Problems involving parallel and non-parallel coplanar forces	A

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