



JUNE 2025

**PAST PAPER
TOPIC BREAKDOWN**

Candidates may use any calculator. Calculators must not have the capability of performing differentiation and integration, or have retrievable mathematical formulae stored in them.

Hello there!

Welcome to my Past Paper Topic Breakdown for Edexcel A Level Maths - Pure!

My name is Daniel, I am a full time GCSE and A Level Maths tutor with a First-Class degree In BSc Mathematics.

In addition to my tutoring sessions, I run a YouTube channel where I offer detailed walkthroughs of past GCSE and A-Level Maths papers. I am also on TikTok and Instagram, where I go through quick-fire questions to help students stay sharp, whether they're scrolling late at night or on their way to school!

I have uploaded a video on my YouTube channel explaining the process of creating this breakdown, it is very helpful in terms of navigating this document. I will provide the QR Code below so you can watch it. The QR Code is also in the top right-hand corner of every page!

SCAN HERE





Colour Scheme Explanation

The Past Paper Topic Breakdown is designed with a detailed color-coding system to help you identify the frequency and importance of each topic based on their appearance in past papers from 2018 to 2024. I have meticulously gone through each question on Paper 1 and Paper 2, analysing which topics have been tested in each question. Based on this analysis, I created the colour scheme to provide clarity and assist you in prioritizing your revision while ensuring you cover the entire syllabus. Below is the explanation for each colour.

Green: Core Topics that come up every year

- These are the essential topics that have consistently appeared in every paper. You should master these areas as they are highly likely to appear again. Ensure you practice a variety of questions from these topics to build a strong foundation.

Blue: Almost every year

- These topics appear frequently but may have been absent in one or two papers over the years. They are still crucial and should be included in your primary revision plan, as they have a high probability of coming up.

Purple: In between "Almost every year" and "Appears occasionally"

- This indicates topics that are not as predictable as the previous categories but are still significant. They might appear in some years and not in others, so while they are not guaranteed, it's important to be familiar with them.

Orange: Appears Occasionally

- Topics in this category are less consistent. They show up sporadically, so while they might not be your top priority, it's wise to review them as part of your revision to cover all bases.

Yellow: Not as frequent

- These topics have made an appearance but lack a clear pattern. Although they are less likely to appear, reviewing them will be beneficial for comprehensive preparation.

Red: Topics I think will appear

- This is a special category not based on frequency. These are topics that I personally feel are likely to come up this year, even if they haven't appeared in a while. If I were revising, I'd make sure to cover these thoroughly.

DISCLAIMER

All topics should be thoroughly revised, regardless of their categorization. This guide is intended to help structure your revision by highlighting areas based on observed patterns, but it's important to ensure comprehensive preparation across all topics.



2024

PAPER 1

1. The Factor theorem
2. Binomial Expansion
3. Numerical Methods - Newton Raphson
Differentiating Trigonometric Expressions
4. Differentiation from First Principles
5. Differentiation - Quotient Rule
Differentiation - Increasing and Decreasing Functions
6. Modulus Function
7. Differential Equations
8. Functions, Composite, Domain Range, Inverse
9. Geometric Sequences and Series
10. Year 1 Differentiation - Equation of a Tangent
Calculus - Algebraic Integration - shaded areas
11. Radians - sectors arcs, GCSE Trigonometry
12. Harmonic Identities $R\sin(\theta + \alpha)$ - Trigonometric Modelling
13. Integration by Substitution
Integrating Trigonometric Expressions $(\sin x)^2$
14. Forming and solving differential equations
15. Quadratics - Discriminant/ Completing the Square
Proof by contradiction

PAPER 2

1. Year 1 Differentiation x^n
Second derivative, Inflection Points
2. Arithmetic Sequences and Series
(In context)
3. Graph Transformations
4. Sequences and Series - Recurrence Relations
5. Small Angle Approximations
6. Exponential and Logarithmic Differentiation
Numerical Methods - Locating Roots, Iteration
7. Vectors
8. Trigonometric Identities and Solving Equations
9. Quadratic Modelling
10. Parametric Differentiation
11. Integration By Parts
12. Partial Fractions
Differential equations
Integrating Partial Fractions
13. Logarithms and Non - Linear Data
14. Circles
15. Implicit Differentiation
Algebraic long division



2023

PAPER 1

1. Year 1 Integration - x^n
2. The Factor Theorem
3. Vectors
4. Small Angle Approximations
Differentiation - Equation of a Tangent
5. Trapezium Rule
Simultaneous Equations
6. Laws of Logarithms
7. Functions - Composite, Domain Range, Inverse
8. Radians - Sectors and Arcs
9. Geometric Sequences and Series
10. Circles
11. Logarithms and Non - Linear Data
12. Differentiation from First Principles
13. Quadratic Modelling
Trigonometric Modelling
14. Algebraic Proof
15. Differentiation - The Quotient Rule
Differentiation - The Chain Rule
Numerical Methods - Locating roots, Iteration, Staircase diagram
Numerical Methods - "Using a suitable interval and a suitable function"

PAPER 2

1. Year 1 Differentiation - Second Derivative, Inflection Points, Concavity
2. Sequences and Series - Recurrence Relations
3. Laws of Logarithms - Solving Equations
4. Exponential Modelling
5. Integration - Finding the curve given dy/dx
6. Vectors
7. Implicit Differentiation
8. Harmonic Identities $R\sin(\theta + \alpha)$
Arithmetic Sequences and Series
9. Parametric to Cartesian
Parametric Differentiation
10. Partial Fractions
Integrating Partial Fractions
11. Forming Rates of Change
Differential Equations
12. Modulus Function (In Context)
Set Notation
13. Binomial Expansion
Integration by substitution
14. Trigonometric Identities and Solving Equations
15. Proof by Contradiction



2022

PAPER 1

1. Graph Transformations
2. The Factor theorem
3. Circles
4. Integration as the limit of a sum
5. Quadratic Modelling
6. Set Notation
Calculus - Stationary Points,
Increasing/Decreasing Functions
Finding the equation of a Curve given
certain conditions
7. Proof by Contradiction
Inequalities
8. Differentiation - Product Rule
Numerical Methods - Locating
Roots, Iteration
9. Vectors
10. Exponential Modelling
11. Polynomials and intersection of
curves
12. Integration By Parts
13. Arithmetic Sequences and Series -
Proving S_n Formula
14. Trigonometric Identities and
Solving Equations (Addition
Formulae)
15. Calculus - Modelling with
Differentiation
Radians - sectors and arcs
16. Parametric Integration
Trigonometric Identities - Double
Angle Formulae - The Reverse Chain
Rule

PAPER 2

1. Modulus Function
2. Sketching $y = a^x$
Solving Exponential Equations
3. Sequences - Recurrence Relations
4. Differentiation from First
Principles
5. The Trapezium Rule
The Trapezium Rule - Estimating
further integrals
Laws of Logarithms
6. Differentiation - Stationary Points
Differentiating Trigonometric
Expressions
Numerical Methods - Newton
Raphson
7. Binomial Expansion
8. Algebraic Integration - Shaded
Areas
9. Trigonometric Modelling -
Harmonic $R\sin(\theta + \alpha)$
10. Long Division
Functions, Composite, Domain
Range, Inverse
11. Algebraic Proof
12. Differentiation - The Quotient Rule
13. Vectors
14. Partial Fractions
Integrating Partial Fractions
Differential Equations
15. Geometric Sequences and Series
Trigonometric Identities Year 1
16. Parametric Differentiation
Parametric to Cartesian



2021

PAPER 1

1. The Factor theorem
2. Quadratics - Completing the Square
3. Sequence - Recurrence Relations
4. Numerical Methods - Locating Roots, Iteration
Numerical Methods - "Using a suitable interval and a suitable function"
5. Geometric Sequences and Series (In Context)
6. Vectors
GCSE Trigonometry
7. Circles
8. Exponential Modelling
9. Partial Fractions
Binomial Expansion
10. Trigonometric Identities and Solving Equations
11. The Trapezium Rule
Integration By Parts
The Chain Rule
12. Quadratic Modelling
13. Parametric to Cartesian
14. Differentiation - The Quotient Rule
15. Proof by Exhaustion
Proof by Contradiction

PAPER 2

1. Arithmetic Sequences and Series
2. Functions, Composite, Domain Range, Inverse
3. Laws of Logarithms
4. Small angle approximations
5. Year 1 Differentiation - x^n
Stationary Points, Inflection Points
6. Radians - Sectors and Arcs
7. Differentiation - Equation of a Tangent
Algebraic Integration - Shaded Areas
8. Implicit Differentiation
9. Geometric Sequences and Series (Involving Sigma Notation)
10. Logarithms and Non - Linear Data
11. Modulus
12. Integration by Substitution
13. Parametric Differentiation
14. Forming rates of change
Differential Equations
15. Harmonic Identities $R\sin(\theta + \alpha)$
Trigonometric Modelling



2020

PAPER 1

1. Binomial Expansion
2. Exponential Equations - Using Logs
3. Vectors
4. Functions, Composite, Domain Range, Inverse
5. Arithmetic Sequences and Series
Geometric Sequences and Series
In context
6. Harmonic Identities $R\sin(\theta + \alpha)$
Trigonometric Modelling
7. Using inequalities to determine regions
Finding the equation of a Curve given certain conditions
8. Exponential Modelling
Forming a differential equation
9. Differentiation - Product Rule
Graph Transformations
Finding the Range
10. Integration By Substitution
11. Circles
Radians
12. Trigonometric Identities and Solving Equations
13. Sequences - Recurrence Relations
14. Forming and Solving Differential Equations
15. Implicit Differentiation
Second Derivative, Inflection Points
16. Proof By Contradiction

PAPER 2

1. The Trapezium Rule
The Trapezium Rule - Estimating further integrals
2. Vectors
3. Laws of Logarithms - Solving Equations
4. Binomial Expansion - Year 1
5. Exponential Equations
Finding points of intersection
6. Algebraic Long Division
Integrating Partial Fractions
7. Differentiation - The Quotient Rule
Numerical Methods - Iteration
8. Integration - x^n
The Factor Theorem
Integration - Finding the curve given dy/dx
9. Exponential Modelling
10. Trigonometric Identities and Solving Equations
11. Modulus
12. Parametric Integration
Integration - The Reverse Chain Rule
Parametric Equations
13. Differentiation - Quotient Rule
14. Circles
15. Geometric Sequences and Series -
Proving S_n formula
16. Algebraic Proof



2019

PAPER 1

1. The Factor Theorem
2. Points of Intersection
Small Angle Approximations
3. Differentiation - The Quotient Rule
4. Binomial Expansion
5. Quadratics - Completing the Square
Graph Transformations
Finding the range
6. Trigonometric Identities and Solving Equations (Double Angle Formulae)
7. Exponential Modelling
8. Definite Integration
Analysing areas above and below x axis
9. Laws of Logarithms
10. Algebraic Proof
11. Geometric Sequences and Series (ln Context)
12. Differentiation - The Product Rule
Differentiating Trigonometric Expressions
Year 1 Trigonometric Identities
Modulus Function
13. Partial Fractions
Integrating Partial Fractions
14. Differentiating Trigonometric Expressions
 $dx/dy = 1/dy/dx$
Small Angle Approximations
Trigonometric Identities

PAPER 2

1. Laws of Indices
2. The Trapezium Rule
3. Radians - Sectors and Arcs (Spot the error)
4. Parametric Equations
5. Integration as the limit of a sum
6. Functions - Composite, Domain Range, Inverse
7. Linear Modelling
8. Geometric Sequences and Series (Involving Sigma Notation)
Laws of Logarithms
9. Logarithms and Non - Linear Data
10. Vectors
11. Implicit Differentiation
Numerical Methods - Iteration
12. Trigonometric Identities and Solving Equations
13. Calculus - Modelling with Differentiation
14. Integration By Substitution
Solving Differential Equations
Integrating Partial Fractions



2018

PAPER 1

1. Small Angle Approximations
2. Year 1 Differentiation - x^n
Stationary Points
Determining their nature
3. Radians - Sectors and Arcs
4. Numerical Methods - Iteration -
Cobweb Diagram
5. Differentiation - The Quotient Rule
Trigonometric Identities
6. Circles
7. Integrating Partial Fractions
The Reverse Chain Rule
8. Trigonometric Modelling
9. Implicit Differentiation
10. Solving Differential Equations
11. Binomial Expansion
12. Exponential Modelling
13. Integration By Substitution
14. Parametric to Cartesian
Curve Sketching
Points of intersection
Set Notation

PAPER 2

1. Functions - Composite, Domain
Range, Inverse
2. Vectors
3. Disproof by Counter Example
Modulus Function Sketching
4. Geometric and Arithmetic
Sequences and Series
(Involving Sigma Notation)
Recurrence Relations
5. Numerical Methods - Newton
Raphson
6. The Factor Theorem
Algebraic Long Division
Trigonometric Equations
7. Trigonometry - Double Angle
Formula
Harmonic Identities $R\sin(\theta + \alpha)$
8. Quadratic Modelling
9. Differentiation from First Principles
10. Forming and Solving Differential
Equations
11. Partial Fractions
Differentiation - The Chain Rule
Increasing/Decreasing Functions
12. Trigonometric Identities and Solving
Equations
13. Integration By Parts
Algebraic Integration - Shaded Areas
14. Exponential Modelling



Wishing you the best of luck with your exams! Daniel



Social Media Links:

- [TikTok](#)
- [YouTube](#)
- [Instagram](#)
- [Facebook](#)

Why not buy me a
coffee? 😊

[Buy Me a Coffee](#)

Take care!

