

2026 NATIONAL ATP: MATHEMATICS GRADE 12 – TERM 1

2026 NATIONAL ATP: MATHEMATICS GRADE 12 – TERM 2

2026 NATIONAL ATP: MATHEMATICS GRADE 12 – TERM 3

TERM 3	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Topics	Finance, growth and decay			Statistics		Counting and Probability			Trial Exam	
Suggested dates	21/7/2026 – 5/8/2026 (12 days)			6/8/26 – 18/8/26 (8 days)		19/8/26 – 28/8/26 (8 days)		31/8/2026 – 23/9/2026 (18 days)		
Date Completed										
SBA				Test (must be complete before the end of week 6)					TRIAL EXAMINATION	

2026 NATIONAL ATP: MATHEMATICS GRADE 12 – TERM 4

2026 NATIONAL ATP: MATHEMATICS GRADE 12 – TERM 1

TERM 1	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11
Topics	Patterns, sequences and series					Functions		Trigonometry			
	<ol style="list-style-type: none"> 1. Patterns: Revise number patterns leading to those where there is a constant second difference between consecutive terms, and the general term is therefore quadratic. 2. Number patterns, including arithmetic and geometric sequences and series 3. Sigma notation 4. Derivation and application of the formulae for the sum of arithmetic and geometric series: <ul style="list-style-type: none"> 4.1 $S_n = \frac{n}{2}[2a + (n - 1)d]$; $S_n = \frac{n}{2}(a + l)$ 4.2 $S_n = \frac{a(r^n - 1)}{r - 1}$; ($r \neq 1$); and 4.3 $S_\infty = \frac{a}{1-r}$; ($-1 < r < 1$), ($r \neq 1$) 					<ol style="list-style-type: none"> 1. Definition of a <i>function</i>. 2. General concept of the <i>inverse of a function</i> and how the domain of the function may need to be restricted (in order to obtain a one-to-one function) to ensure that the inverse is a function. 3. Determine and sketch graphs of the inverses of the functions defined by $y = ax + q;$ $y = ax^2$ $y = b^x; b > 0; b \neq 1$ Focus on the following characteristics: domain and range, intercepts with the axes, turning points, minima, maxima, asymptotes (horizontal and vertical), shape and symmetry, average gradient (average rate of change), intervals on which the function increases /decreases. 4. Revision of the exponential function and the exponential laws and graph of the function defined by $y = b^x$ where $b > 0$ and $b \neq 1$ 5. Understand the definition of a logarithm: $y = \log_b x \Leftrightarrow x = b^y$ where $b > 0$ and $b \neq 1$ 6. The graph of the function, $y = \log_b x$ for both the cases $0 < b < 1$ and $b > 1$. 					
Date completed											
SBA	Test (content term 1)					Investigation			&		

2026 NATIONAL ATP: MATHEMATICS GRADE 12 – TERM 2

TERM 2	Week 1	Week 2	Week 3	Week 4	Week 5 -6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Topics	Euclidean Geometry		Analytical Geometry		Differential Calculus including Polynomials					JUNE EXAMINATION / CONTROL TEST	
	<p>1. Revise earlier work on the necessary and sufficient conditions for polygons to be similar.</p> <p>2. Prove (accepting results established in earlier grades):</p> <ul style="list-style-type: none"> that a line drawn parallel to one side of a triangle divides the other two sides proportionally (and the Mid-point Theorem as a special case of the converse of this theorem); that equiangular triangles are similar; that triangles with sides in proportion are similar; and the Pythagorean Theorem by similar triangles 	<p>1. Revise the following including grade 10 concepts:</p> <ul style="list-style-type: none"> the equation of a line through two given points; the equation of a line through one point and parallel or perpendicular to a given line; and The inclination (θ) of a line, where $m = \tan \theta$ is the gradient of the line ($0^\circ \leq \theta \leq 180^\circ$) <p>2. Apply the equation $(x - a)^2 + (y - b)^2 = r^2$ that defines a circle with radius r and centre $(a ; b)$.</p> <p>3. Determine the equation of a tangent to a given circle.</p>	<p>1. Factorise third-degree polynomials. Apply the Remainder and Factor Theorems to polynomials of degree at most 3 (no proofs required).</p> <p>2. An intuitive understanding of the limit concept, in the context of approximating the rate of change or gradient of a function at a point.</p> <p>3. Use limits to define the derivative of a function f at any x :</p> $f'(x) = \lim_{h \rightarrow 0} \frac{f(x + h) - f(x)}{h}$ <p>Generalise to find the derivative of f at any point x in the domain of f, i.e., define the derivative function $f'(x)$ of the function $f(x)$. Understand intuitively that $f'(a)$ is the gradient of the tangent to the graph of f at the point with x-coordinate a.</p> <p>4. Using the definition (first principle), determine the derivative, $f'(x)$ where a, b and c are constants:</p> <ol style="list-style-type: none"> 4.1 $f(x) = ax^2 + bx + c$; 4.2 $f(x) = ax^3$; 4.3 $f(x) = \frac{a}{x}$ and <p>4.4 $f(x) = c$.</p>								



5. Use the formula, $\frac{d}{dx}(ax^n) = anx^{n-1}$ (for any real number n) together with the rules

5.1

$$\frac{d}{dx}[f(x) \pm g(x)] = \frac{d}{dx}[f(x)] \pm \frac{d}{dx}[g(x)]$$

and

$$5.2 \quad \frac{d}{dx}[kf(x)] = k \frac{d}{dx}[f(x)], \quad (k \text{ a constant})$$

6. Determine equations of tangents to graphs of functions.

7. Introduce the second derivative

$$f''(x) = \frac{d}{dx}(f'(x))$$

of $f(x)$ and how it determines the concavity of a function.

8. Sketch graphs of cubic polynomial functions using differentiation to determine the coordinates of stationary points, and points of inflection (where concavity changes). Also, determine the x -intercepts of the graph using the factor theorem and other techniques.

9. Solve practical problems concerning optimisation and rate of change, including calculus of motion.

Date completed				
SBA		Assignment	JUNE EXAM / CONTROL TEST	

TERM 3	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9-11
Topics	Finance, growth and decay			Statistics		Counting and Probability		Revision	TRIAL EXAMINATION
	1. Revise and use simple and compound growth and decay formulae: $A = P(1 \pm in)$ and $A = P(1 \pm i)^n$ to solve problems (including straight line, depreciation and depreciation on a reducing balance). 2. Solve problems involving present value and future value annuities. 3. Make use of logarithms to calculate the value of n , the time period, in the equations $A = P(1 + i)^n$ or $A = P(1 - i)^n$. 4. Critically analyse investment and loan options and make informed decisions as to best option(s) (including pyramid)			1. Revise: <ul style="list-style-type: none">HistogramsFrequency polygonsOgives (cumulative frequency curves)Variance and standard deviation of ungrouped dataSymmetric and skewed dataIdentification of outliers. 2. Use statistical summaries, scatterplots, regression (in particular the least squares regression line) and correlation to analyse and make meaningful comments on the context associated with given bivariate data, including interpolation, extrapolation and discussions on skewness.		1. Revise, <ul style="list-style-type: none">the identity: $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$the addition rule for mutually exclusive events: $P(A \text{ or } B) = P(A) + P(B)$the complementary rule: $P(\text{not } A) = 1 - P(A)$identifying dependent and independent events and,the product rule for independent events: $P(A \text{ and } B) = P(A) \times P(B)$the use of Venn diagrams to solve probability problems, deriving and applying formulae for any three events A, B and C in a sample space S.the use of tree diagrams for the probability of consecutive or simultaneous events which are not necessarily independent. 2. Apply the fundamental counting principle to solve probability problems 3. Probability problems using Venn diagrams, tree diagrams, two-way contingency tables and other techniques (like the Fundamental Counting Principle) to solve probability problems (where events are not necessarily independent).			
Date completed									
SBA	Test							TRIAL EXAMINATION	

2026 NATIONAL ATP: MATHEMATICS GRADE 12 – TERM 4

TERM 4	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	EXAM									
Topics	Revision				Final Examination				PAPER 1 150 marks 3 hours		Marks									
									Algebraic expressions, equations and inequalities	26										
									Number patterns	26										
									Functions and graphs	35										
									Finance, growth and decay	15										
									Differential Calculus	35										
									Counting Principle and Probability	15										
TOTAL NUMBER OF SBA TASKS 6										PAPER 2 150 marks 3 hours	Marks									
Term 1 Investigation / Project 15%) and Test (15%)										Statistics	20									
Term 2 Assignment (15%), June Exam/ Control Test (15%)										Analytical Geometry	40									
Term 3 Test (15 %) and Trial (26 %)										Euclidean Geometry	40									
Term 4 Final Examination										Trigonometry	50									