KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

MATHEMATICS ANNUAL TEACHING PLAN GRADE 10 – 2024

NAME OF SCHOOL: ……..……………..…….…..………

NAME OF TEACHER: ……..…………….…….………

TERM 1									
NUMBER OF DAYS	**DATE STARTED**	**DATE COMPLETED**	**TOPIC**	**CURRICULUM STATEMENT**	**ASSESSMENT**	**F/IF?**	**DH: SIGNATURE AND DATE**	**% COMPLETED**	
								Term	**Year**
17/01 – 19/01 (3 days)			**ALGEBRA PART 1 (ALGEBRAIC EXPRESSIONS)**	1. Understand that real numbers can be rational or irrational. Know the difference as far as the decimal expansions of the numbers are concerned. 2. Establish between which two integers a given simple surd lies.				8	2
22/01 –02/02 (10 days)				3. Round decimal numbers to an appropriat5e degree of accuracy. 4. Multiplication of a binomial by a trinomial. 5. Factorisation to include types taught in grade 9 and: • trinomials • grouping in pairs • sum and difference of two cubes				35	10
05/02 (1 day)				6. Simplification of algebraic fractions using factorization.				38	11
06/02 –07/02 (2 days)				7. Addition and subtraction of algebraic fractions with denominators with denominators of cubes (limited to sum and difference of cubes).				43	12
08/02 (1 day)			**ALGEBRA PART 2 (Exponents)**	1. Revise laws of exponents learnt in Grade 9 where $x, y > 0; m, n \in Z$: • $x^m \times x^n = x^{m+n}$ • $x^m \div x^n = x^{m-n}$ • $(x^m)^n = x^{mn}$ • $x^m \times y^m = (xy)^m$ 2. Also, by definition: • $x^{-n} = \dfrac{1}{x^n}$, $x \neq 0$ and $x^0 = 1, x \neq 0$				46	13
09/02 –14/02 (4 days)				3. Use the laws of exponents to simplify expressions and solve equations, accepting that the rules also hold for $m, n \in Q$.	**INVESTIGATION SBA weighting: 15**	**F**		57	16

TERM 1 (continued)

NUMBER OF DAYS	DATE STARTED	DATE COMPLETED	TOPIC	CURRICULUM STATEMENT	ASSESSMENT	F/IF?	HOD: SIGNATURE AND DATE	% COMPLETED Term	% COMPLETED Year
15/02 –19/02 (3 days)			**ALGEBRA PART 3 (Equations and Inequalities)**	1. Revise the solution of linear equations. 2. Solve quadratic equations (by factorisation).				65	18
20/02 –23/02 (4 days)				3. Solve simultaneous linear equations in two unknowns. 4. Solve word sums involving linear, quadratic or simultaneous linear equations.				76	21
26/02 –28/02 (3 days)				5. Solve literal equations (changing the subject of a formula). 6. Solve linear inequalities (and show solution graphically). **Interval notation must be taught.**				85	23
29/02 – 07/03 (6 days)			**TRIGONO-METRY PART 1**	1. Define the trigonometric ratios $\sin\theta$, $\cos\theta$, and $\tan\theta$ using right-angled triangles. 2. Define the reciprocals of the trigonometric ratios $\operatorname{cosec}\theta$, $\sec\theta$ and $\cot\theta$ using right-angled triangles. (These three reciprocals should be examined in grade 10 only.) 3. Derive values of the trigonometric ratios for the special cases (without using a calculator), $\theta \in \left\{0°; 30°; 45°; 60°; 90°\right\}$.				100	28
08/03 – 19/03 (8 days)			**REVISION and MARCH TEST**	**MARCH TEST to cover all the work done during term 1.**	**MARCH TEST SBA weighting: 14**	**F**			

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TERM 2

NUMBER OF DAYS	DATE STARTED	DATE COMPLETED	TOPIC	CURRICULUM STATEMENT	ASSESSMENT	F/IF?	DH: SIGNATURE AND DATE	% COMPLETED Term	% COMPLETED Year
03/04 –09/04 (5 days)			**TRIGONO-METRY PART 1**	4. Solve simple trigonometric equations for angles between $0°$ and $90°$. 5. Extend the definitions of $\sin\theta$, $\cos\theta$, and $\tan\theta$ for $0° \leq \theta \leq 360°$ 6. Use diagrams to determine the numerical values of ratios for angles from $0°$ to $360°$				12	32
10/04–26/04 (13 days)			**EUCLIDEAN GEOMETRY**	1. Revise basic results established in earlier grades regarding lines, angles and triangles, especially the similarity and congruence of triangles. 2. Define the following special quadrilaterals: the kite, parallelogram, rectangle, rhombus, square and trapezium. Investigate and make conjectures about the properties of the sides, angles, diagonals and areas of these quadrilaterals. Prove these conjectures. 3. The following proofs of theorems are examinable: • The opposite sides and angles of a parallelogram are equal. • The diagonals of a parallelogram bisect each other. • If one pair of opposite sides of a quadrilateral are equal and parallel, then the quadrilateral is a parallelogram. • The diagonals of a rectangle are equal. • The diagonals of rhombus bisect each other at right angles and bisect the interior angles of the rhombus.				43	42
29/04–02/05 (3 days)				4. Investigate line segments joining the midpoints of two sides of a triangle				50	44
03/05-10/05 (6 days)			**ANALYTI-CAL GEOMETRY**	1. Represent geometric figures on a Cartesian co-ordinate system. 2. Derive and apply for any two points, $(x_1; y_1)$ and $(x_2; y_2)$, the formulae for calculating the: • distance between the two points; • gradient of the line segment connecting the two points (and from that identify parallel and perpendicular lines); • coordinates of the midpoint of the line segment joining the two points.	**ASSIGNMENT SBA weighting: 15**	F		64	48

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TERM 2 (continued)

NUMBER OF DAYS	DATE STARTED	DATE COMPLETED	TOPIC	CURRICULUM STATEMENT	ASSESSMENT	F/IF?	DH: SIGNATURE AND DATE	% COMPLETED Term	Year
13/05-14/05 (2 days)			**FUNCTIONS AND GRAPHS**	1. The concept of a function, where a certain quantity (Output value) uniquely depends on another quantity (input value). Work with relationships between variables using tables, graphs, words and formulae. Convert flexibly between these representations. **Note that the graph defined by $y = x$ should be known from Grade 9.**					50
15/05–31/05 (13 days)			**FUNCTIONS AND GRAPHS**	2. Point by point plotting of basic graphs defined by $y = x^2$, $y = \dfrac{1}{x}$, and $y = b^x$, $b > 0$ and $b \neq 1$ to discover shape, domain (input values), range (output values), asymptotes, axes of symmetry, turning points and intercepts on the axes (where applicable). 3. Investigate the effect of a and q on the graphs defined by $y = a.f(x) + q$, where $f(x) = x$ $f(x) = x^2$, $f(x) = \dfrac{1}{x}$, and $f(x) = b^x$, $b > 0$ and $b \neq 1$. 4. Sketch graphs, find the equations of given graphs and interpret graphs. **Note**: Sketching of the graphs must be based on the observation of number 3 above.				100	60
03/06–13/06 (9 days)			**REVISION and JUNE TEST**	**JUNE TEST to cover the work done during Term 2.**	**JUNE TEST SBA weighting: 14**	F			

TERM 3

NUMBER OF DAYS	DATE STARTED	DATE COMPLETED	TOPIC	CURRICULUM STATEMENT	ASSESSMENT	F/IF?	DH: SIGNATURE AND DATE	% COMPLETED	
								Term	Year
09/07 – 15/07 (5 days)			**TRIGONO-METRY PART 2 (FUNCTIONS AND GRAPHS)**	1. Point by point plotting of basic graphs defined by $y = \sin\theta$, $y = \cos\theta$ and $y = \tan\theta$ for $\theta \in [0°; 360°]$. 2. Study the effect of a and q on the graphs defined by $y = a\sin\theta + q$; $y = a\cos\theta + q$ and $y = a\tan\theta + q$, for $\theta \in [0°; 360°]$. 3. Sketch graphs, find the equations of given graphs and interpret graphs. **Note**: Sketching of the graphs must be based on the observation of number 2 above.				12	64
16/07 – 22/07 (5 days)			**TRIGONO-METRY PART 3**	Solve two-dimensional problems involving right-angled triangles.				23	67
23/07 – 26/07 (4 days)			**STATISTICS (From Grade 9)**	Draw a variety of graphs to display and interpret data including: • bar graphs and double bar graphs • histograms with given and own intervals • pie charts • broken line graphs				33	70
29/07 – 01/08 (4 days)			**STATISTICS**	1. Revise measures of central tendency in ungrouped data. 2. Measures of central tendency in grouped data: Calculation of mean estimate of grouped data and identification of modal interval and interval in which the median lies. 3. Revision of range as a measure of dispersion and extension to include percentiles, quartiles, interquartile and semi- interquartile range.				42	73
02/08 – 08/08 (5 days)			**STATISTICS**	4. Five number summary (maximum, minimum and quartiles) and box and whisker diagram. 5. Use the statistical summaries (measures of central tendency and dispersion), and graphs to analyse and make meaningful comments on the context associated with the given data.				53	77

TERM 3 (continued)

NUMBER OF DAYS	DATE STARTED	DATE COMPLETED	TOPIC	CURRICULUM STATEMENT	ASSESSMENT	F/IF?	DH: SIGNATURE AND DATE	% COMPLETED Term	% COMPLETED Year
12/08 – 23/08 (10 days)			**PROBABILITY**	1. The use of probability models to compare the relative frequency of events with the theoretical probability. 2. The use of Venn diagrams to solve probability problems, deriving and applying the following for any two events A and B in a sample space S: • $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$; • A and B are mutually exclusive if $P(A \text{ and } B) = 0$; • A and B are complementary if they are mutually exclusive and $P(A) + P(B) = 1$; Then: $P(B) = P(\text{not } A) = 1 - P(A)$.				77	85
26/08 – 06/09 (10 days)			**FINANCE AND GROWTH**	1. Use the simple and compound growth formulae [$A = P(1 + in)$ and $A = P(1 + i)^n$] to solve problems, including annual interest, hire purchase, inflation, population growth and other real-life problems. 2. Understand the implication of fluctuating foreign exchange rates (e.g. on the petrol price, imports, exports, overseas travel).	**TERM 3 TEST SBA weighting: 14**			100	92
09/09-19/09 (9 days)			**REVISION and SEPTEMBER TEST**	**SEPTEMBER TEST to cover the work done during Term 3.**	**SEPTEMBER TEST SBA weighting: 14**	**F**			

TERM 4

NUMBER OF DAYS	DATE STARTED	DATE COMPLETED	TOPIC	CURRICULUM STATEMENT	ASSESSMENT	F/IF?	DH: SIGNATURE AND DATE	% COMPLETED	
								Term	Year
01/10 – 07/10 (5 days)			**MEASUREMENT**	1. Revise the volume and surface areas of right-prisms and cylinders. 2. Study the effect on volume and surface area when multiplying any dimension by a constant factor *k*. 3. Calculate the volume and surface areas of spheres, right pyramids and right cones. • In case of pyramids, bases must either be an equilateral triangle or a square. • Problem types must include composite figures.	**TERM 4 TEST SBA weighting: 14**	**F**		50	96
08/10 – 14/10 (5 days)			**NUMBER PATTERNS**	Investigate number patterns leading to those where there is a constant difference between consecutive terms, and the general term is therefore linear. **Do not use the formula** $T_n = a + (n-1)d$.				100	100
15/10- 15/11 (24 days)			**REVISION and NOVEMBER EXAM**	**NOVEMBER EXAMINATION to cover all the work done during Terms 1, 2, 3 and 4.**	**NOVEMBER EXAMINATION**	**F**			